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Supplement to the December 1974

Space Investigations Documentation

System (SIDS) Report

JULY 1975



NATIONAL SPACE SCIENCE DATA CENTER

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION • GODDARD SPACE FLIGHT CENTER, GREENBELT, MD.

NSSDC 75-05

SUPPLEMENT TO THE DECEMBER 1974 SPACE
INVESTIGATIONS DOCUMENTATION SYSTEM (SIDS) REPORT

July 1975

National Space Science Data Center
National Aeronautics and Space Administration
Goddard Space Flight Center
Greenbelt, Maryland 20771

CONTENTS

	<u>Page</u>
1. INTRODUCTION	1001
2. SUPPLEMENTARY DESCRIPTIONS OF SPACECRAFT AND EXPERIMENTS	1003
3. INDEX OF SPACECRAFT AND EXPERIMENTS	1017

1. INTRODUCTION

This document updates the December 1974 Space Investigations Documentation System (SIDS) Report to March 31, 1975. Document availability, definitions, abbreviations, and acronyms described in the original report generally apply here.

Section 2, "Supplementary Descriptions of Spacecraft and Experiments," contains descriptions of spacecraft and experiments that have become known to NSSDC or that have changed significantly since the original report.

Section 3, "Index of Spacecraft and Experiments," is an alphabetical listing by spacecraft name, including both common and alternate names, of spacecraft and experiments described in section 2 of this document and the original report. It also updates the status of operation and launch dates to March 31, 1975.

All changes to this document should be sent to:

NASA Headquarters
Office of Space Science
Space Science Steering
Committee Secretariat
Code: SS
Washington, D.C. 20546

Phone: (202) 755-8393.

Comments must reach the Secretariat by October 14, 1975, to be included in the December 1975 report.

2. SUPPLEMENTARY DESCRIPTIONS OF SPACECRAFT AND EXPERIMENTS

In this section, spacecraft and experiment descriptions are sorted by spacecraft common name. Within each spacecraft listing, experiments are sorted by the principal investigator's (PI) or team leader's (TL) last name. If the spacecraft common name is not known, the spacecraft can be found by referring to an alternate name found in the "Index of Spacecraft and Experiments," section 3.

Each spacecraft entry heading contains the spacecraft common name, alternate names, NSSDC ID code, last reported state of the spacecraft, actual or planned launch date, weight, launch site, launch vehicle, sponsoring country and agency, orbit parameters if appropriate, and personnel. For unlaunched satellites, a set of planned orbit parameters is given. For launched orbiting spacecraft, two sets of orbit parameters are given: initial orbit parameters calculated shortly after launch and recent orbit parameters. No orbit parameters are given for lander or fly-by missions. The spacecraft brief description follows each heading.

Each experiment entry heading consists of experiment name, NSSDC ID code, last reported state of the experiment, the Office of Space Science (OSS) division, the relevant SIDS disciplines, and the experiment personnel. The experiment brief description follows each heading.

SOLAR WIND COMPOSITION, HEAT LOSS, AND SOLAR CELL RADIATION DAMAGE EXPERIMENTS. THE LM ITSELF WAS ON THE LUNAR SURFACE JULY 30-AUGUST 2, 1971.

----- APOLLO 15 LUNAR SEPARATION, FALLER -----

EXPERIMENT NAME- LASER RANGING RETROREFLECTOR

NSSDC ID- 71-063C-0E

LAST REPORTED STATE- LAUNCHED AND OPERATING NORMALLY AT THE STANDARD DATA ACQUISITION RATE SINCE 07/30/71.

OSS DIVISION- LUNAR PROGRAMS
DISCIPLINE(S)- CELESTIAL MECHANICS GEODESY AND CARTOGRAPHY

EXPERIMENT PERSONNEL (PI=PRINCIPAL INVESTIGATOR, TL=TEAM LEADER
DI=OTHER INVESTIGATOR, TM=TEAM MEMBER)
PI - J. FALLER WESLEYAN U
MIDDLETON, CT

EXPERIMENT BRIEF DESCRIPTION

THE LASER RANGING RETROREFLECTOR EXPERIMENT (LRRR), PART OF THE ALSEP PACKAGE, WAS A CCRNER REFLECTOR FOR LASER RANGING FROM EARTH. THE RANGING DATA OBTAINED INCLUDED INFORMATION ON LUNAR MOTION, LUNAR LIBRATIONS, AND EARTH ROTATION. THE LRRR EXPERIMENT CONSISTED OF A FOLDED PANEL STRUCTURE INCORPORATING 300 INDIVIDUAL FUSED-SILICA OPTICAL CCRNER REFLECTORS, A SIMPLE ALIGNMENT/LEVELING DEVICE, AND AN AIM-HANDLE MECHANISM. THE LUNAR ROVING VEHICLE (LRV) WAS USED TO CARRY THE LRRR TO THE HADLEY RILL SITE. THE LRRR BECAME PASSIVE AFTER DEPLOYMENT. A HASSELBLAD ELECTRIC DATA CAMERA (60-MM LENS) WAS USED TO PHOTOGRAPH THE EXPERIMENT. THE LRRR CAN BE USED INDEFINITELY AND WILL PROVIDE DATA THAT, WHEN USED IN CONJUNCTION WITH DATA FROM THE APOLLO 11 AND 14 LRRR EXPERIMENTS, WILL PERMIT MORE REFINED DISTANCE MEASUREMENTS THAN WERE PREVIOUSLY AVAILABLE. NOW THAT SMALLER TELESCOPES CAN BE USED, THE EXPERIMENT IS PROVIDING GREATER QUANTITIES OF MORE ACCURATE DATA.

***** ATS 5 *****

SPACECRAFT COMMON NAME- ATS 5
ALTERNATE NAMES- PL-622B, ATS-E
04062

NSSDC ID- 69-069A

LAST REPORTED STATE- LAUNCHED AND OPERATING PARTIALLY AT A SUBSTANDARD DATA ACQUISITION RATE SINCE 06/01/73.

LAUNCH DATE- 09/12/66 SPACECRAFT WEIGHT- 821. KG
LAUNCH SITE- CAPE CANAVERAL, UNITED STATES

LAUNCH VEHICLE- ATLAS-AGEN

SPONSORING COUNTRY/AGENCY
UNITED STATES NASA-DA

INITIAL ORBIT PARAMETERS
ORBIT TYPE- GEOCENTRIC EPOCH DATE- 08/23/69
ORBIT PERIOD- 1435. MIN INCLINATION- 2.6 DEG
PERIAPSIS- 35760.0 KM ALT APOAPSIS- 36894.0 KM ALT

RECENT ORBIT PARAMETERS
ORBIT TYPE- GEOCENTRIC EPOCH DATE- 02/23/75
ORBIT PERIOD- 1436. MIN INCLINATION- 2.34 DEG
PERIAPSIS- 35719. KM ALT APOAPSIS- 35854. KM ALT

SPACECRAFT PERSONNEL (PM=PROJECT MANAGER, PS=PROJECT SCIENTIST,
MG=PROGRAM MANAGER, SC=PROGRAM SCIENTIST)
PM - D.V. FOREYCE NASA-GSFC

PS - T.L. AGGSON NASA-GSFC

GREENBELT, MD

GREENBELT, MD

SPACECRAFT BRIEF DESCRIPTION
ATS 5 WAS AN EQUATORIAL-ORBITING, SYNCHRONOUS-ALTITUDE TECHNOLOGY SATELLITE INTENDED TO TEST VARIOUS COMMUNICATIONS AND EARTH OBSERVATIONAL SYSTEMS. ALSO INCLUDED ON BOARD WERE PARTICLE, ELECTRIC FIELD, AND MAGNETIC FIELD EXPERIMENTS. BECAUSE OF A MALFUNCTION, THE INTENDED GRAVITY GRADIENT STABILIZATION MECHANISM COULD NOT BE DEPLOYED, AND ATS 5 WAS STABILIZED IN A SPINNING MODE ABOUT SPACECRAFT Z AXIS AT APPROXIMATELY 71 RPM. ALL EXPERIMENTS WHICH DEPENDED ON THE PLANNED GRAVITY GRADIENT STABILIZATION WERE ADVERSELY AFFECTED TO VARYING DEGREES, AND THE MISSION WAS DECLARED A FAILURE. HOWEVER, SOME OF THE SCIENCE EXPERIMENTS, INCLUDING THE MAGNETIC FIELD MONITOR AND THE PARTICLE EXPERIMENTS, RETURNED USABLE DATA DURING THE OPERATIONAL LIFETIME OF THE MISSION. ATS 5 WAS POSITIONED AT ABOUT 105 DEG W LONGITUDE OVER THE PACIFIC OCEAN, DATA WERE RECORDED ABOUT 60 PERCENT OF THE TIME THROUGH MOST OF THE SPACECRAFT'S OPERATIONAL LIFETIME, WHICH EXTENDED TO JUNE 1, 1973, AFTER WHICH THE ACQUISITION RATE DECREASED FURTHER.

----- ATS 5, DARDOSA -----

EXPERIMENT NAME- RADIO BEACON

NSSDC ID- 69-069A-12

LAST REPORTED STATE- LAUNCHED AND OPERATING NORMALLY AT A SUBSTANDARD DATA ACQUISITION RATE SINCE 03/10/75.

OSS DIVISION- PHYSICS AND ASTRONOMY PROGRAMS
DISCIPLINE(S)-

EXPERIMENT PERSONNEL (PI=PRINCIPAL INVESTIGATOR, TL=TEAM LEADER
DI=OTHER INVESTIGATOR, TM=TEAM MEMBER)

PI - A.V. DARDOSA STANFORD U
STANFORD, CA
DI - D.K. GARRIOTT STANFORD U
STANFORD, CA

EXPERIMENT BRIEF DESCRIPTION

THIS EXPERIMENT CONSISTED OF PHASE-COHERENT RADIO FREQUENCIES CONTINUOUSLY TRANSMITTED AT 137.350 AND 412.050 MHZ (3RD HARMONIC). THE TOTAL ELECTRON CONTENT ALONG THE PROPAGATION PATH WAS CALCULATED BY ANALYSIS OF THE FARADAY ROTATION ANGLE MEASUREMENTS ON THE LOWER FREQUENCY, OR ANALYSIS OF DIFFERENTIAL DOPPLER FREQUENCY RECORDINGS OF BOTH FREQUENCIES. IONOSPHERIC IRREGULARITIES AND SCINTILLATION WAS ALSO OBSERVED.

----- ATS 5, MCILWAIN -----

EXPERIMENT NAME- OMNIDIRECTIONAL HIGH-ENERGY PARTICLE DETECTOR

NSSDC ID- 69-069A-03

LAST REPORTED STATE- LAUNCHED AND OPERATING NORMALLY AT A SUBSTANDARD DATA ACQUISITION RATE SINCE 08/00/72.

OSS DIVISION- PHYSICS AND ASTRONOMY PROGRAMS
DISCIPLINE(S)- PARTICLES AND FIELDS

EXPERIMENT PERSONNEL (PI=PRINCIPAL INVESTIGATOR, TL=TEAM LEADER
DI=OTHER INVESTIGATOR, TM=TEAM MEMBER)
PI - C.E. MCILWAIN U OF CALIF, SAN DIEGO
SAN DIEGO, CA

EXPERIMENT BRIEF DESCRIPTION

THREE PLASTIC SCINTILLATOR DETECTORS, EACH WITH A 2-PI SOLID ANGLE FIELD OF VIEW, MEASURED ELECTRONS IN 12 INTERVALS IN THE ENERGY RANGE 0.5 TO 5 MEV. SOLAR COSMIC RAYS WITH ENERGIES GREATER THAN 12, 16, AND 24 MEV WERE ALSO MEASURED. THE DETECTORS HAVE FUNCTIONED NORMALLY FROM LAUNCH TO AUGUST 1972 AFTER WHICH TIME THE DATA ACQUISITION WAS LIMITED TO SELECTED TIMES. THE SPACECRAFT SPIN DID NOT DEGRADE THE EXPERIMENT DATA.

----- ATS 5, MCILWAIN -----

EXPERIMENT NAME- BIDIRECTIONAL LOW-ENERGY PARTICLE DETECTOR

NSSDC ID- 69-069A-11

LAST REPORTED STATE- LAUNCHED AND OPERATING PARTIALLY AT A SUBSTANDARD DATA ACQUISITION RATE SINCE 08/00/73.

OSS DIVISION- PHYSICS AND ASTRONOMY PROGRAMS
DISCIPLINE(S)- PARTICLES AND FIELDS

EXPERIMENT PERSONNEL (PI=PRINCIPAL INVESTIGATOR, TL=TEAM LEADER
DI=OTHER INVESTIGATOR, TM=TEAM MEMBER)
PI - C.E. MCILWAIN U OF CALIF, SAN DIEGO
SAN DIEGO, CA

DI - R.W. FILLIUS U OF CALIF, SAN DIEGO
SAN DIEGO, CA

DI - S. DEFOREST U OF CALIF, SAN DIEGO
SAN DIEGO, CA

EXPERIMENT BRIEF DESCRIPTION

THIS DETECTOR MEASURED ELECTRONS AND PROTONS IN 62 LOGARITHMICALLY EQUISPACE INTERVALS IN THE ENERGY RANGE 50 EV TO 50 KEV. FOUR CURVED-PLATE ELECTROSTATIC ANALYZERS AND CHANNELTRON MULTIPLIERS WERE USED. TWO APERTURES WITH 5 X 8 DEG VIEW ANGLES LOOKED PARALLEL TO, AND PERPENDICULAR TO, THE SPACECRAFT SPIN AXIS. THE DEFLECTION VOLTAGE WAS PROGRAMMED FOR EITHER A SCAN MODE (ONE STEP PER FRAME) OR A PEAK TRACKING MODE. IN THE SCAN MODE, A COMPLETE SEQUENCE (62 STEPS) WAS OBTAINED IN 20.5 SEC.

----- ATS 5, MOZER -----

EXPERIMENT NAME- TRI-DIRECTIONAL MEDIUM-ENERGY PARTICLE DETECTOR

NSSDC ID- 69-069A-04

LAST REPORTED STATE- LAUNCHED AND OPERATING NORMALLY AT A SUBSTANDARD DATA ACQUISITION RATE SINCE 03/10/75.

OSS DIVISION- PHYSICS AND ASTRONOMY PROGRAMS
DISCIPLINE(S)-

EXPERIMENT PERSONNEL (PI=PRINCIPAL INVESTIGATOR, TL=TEAM LEADER
DI=OTHER INVESTIGATOR, TM=TEAM MEMBER)
PI - F.S. MOZER U OF CALIF, BERKELEY
BERKELEY, CA

EXPERIMENT BRIEF DESCRIPTION

THIS EXPERIMENT CONSISTED OF THREE ESSENTIALLY IDENTICAL SCINTILLATION PHOTOMULTIPLIER DETECTORS, EACH INTENDED TO MEASURE (SEPARATELY) ELECTRONS AND PROTONS IN THREE ENERGY WINDOWS CENTERED RESPECTIVELY AT 40, 75, AND 120 KEV AND 60, 120, AND 165 KEV. TWO DETECTORS, LOOKING IN OPPOSITE DIRECTIONS, WERE TILTED BY 12 DEG FROM THE SATELLITE Z AXIS AND ONE WAS ORIENTED PERPENDICULAR TO THIS CONFIGURATION. OVER MOST OF ITS DATA COLLECTING LIFETIME, THE SATELLITE WAS SPINNING ABOUT ITS Z AXIS, WITH A SPIN PERIOD OF 0.78 SEC. DUE TO AN UNPLANNED SPACECRAFT SPIN SOON AFTER LAUNCH, A SHUTTER SYSTEM WAS ACTIVATED THAT RENDERED THE PERPENDICULAR DETECTOR

INEFFECTIVE. THEREFORE, MEASUREMENTS WERE MADE ONLY IN DIRECTIONS APPROXIMATELY PARALLEL AND ANTI-PARALLEL TO THE LOCAL MAGNETIC FIELD. THE SPECIES ANALYSIS WAS PERFORMED BY A THREE-CHANNEL PULSE-HEIGHT ANALYZER, AND PARTICLE COUNTS WERE TELEMETERED IN BOTH ANALOG AND DIGITAL MODES. THE INTEGRATION TIME FOR EACH CHANNEL WAS 0.01 SEC, WHILE THE READOUT RATE FOR ANY ONE CHANNEL VARIED FROM 0.2 TO 5.12 SEC, DEPENDING ON A COMMANDABLE READOUT MODE. FOR FURTHER INFORMATION CONSULT -- "DEVELOPMENT OF A DOUBLE-LAYERED SCINTILLATOR FOR SEPARATING AND DETECTING LOW-ENERGY PROTONS AND ELECTRONS." BY F. S. MOZER, F. H. BOGOTT, AND C. W. BATES, JR., IEEE TRANS. ON NUCL. SCI., VOL NS-15, P 144, 1968.

----- ATS 5, SHARP -----

EXPERIMENT NAME- PROTON ELECTRON DETECTOR

NSSDC ID- 69-069A-05

LAST REPORTED STATE- LAUNCHED AND OPERATING NORMALLY
AT A SUBSTANDARD DATA ACQUISITION RATE SINCE 03/10/75.

OSS DIVISION- PHYSICS AND ASTRONOMY PROGRAMS

DISCIPLINE(S)-

EXPERIMENT PERSONNEL (PI=PRINCIPAL INVESTIGATOR, TL=TEAM LEADER
OI=OTHER INVESTIGATOR, TM=TEAM MEMBER)
PI - R.D. SHARPLOCKHEED PALO ALTO
PALO ALTO, CA
OI - J.B. REGANLOCKHEED PALO ALTO
PALO ALTO, CA

EXPERIMENT BRIEF DESCRIPTION

THIS EXPERIMENT PACKAGE CONSISTS OF 11 INDIVIDUAL DETECTORS WITH CONTINUOUS CHANNEL MULTIPLIERS AS THE SENSING ELEMENTS. FOUR OF THE DETECTORS MAGNETICALLY ANALYZE ELECTRONS IN SELECTED CONTIGUOUS ENERGY INTERVALS BETWEEN 0.5 TO 50 KEV. ONE PROTON DETECTOR PROVIDES A MAGNETICALLY ANALYZED DIFFERENTIAL ENERGY GROUP CENTERED AT 1 KEV. FOUR DETECTORS MEASURE INTEGRAL PROTON FLUXES ABOVE 5, 20, 60, AND 1000 KEV. THE TENTH DETECTOR MEASURES PROTONS ABOVE 5 KEV. THE ELEVENTH IS A MATCHED DETECTOR MEASURING BOTH ELECTRONS AND PROTONS. THE FIRST 9 DETECTORS ADMIT FLUXES FROM A DIRECTION 11 DEG REMOVED FROM THE SPACECRAFT AXIS OF SYMMETRY, WHILE THE LAST TWO DETECTORS ARE PLACED AT 22 DEG WITH RESPECT TO THE CTHERS. ON JULY 14, 1970 THE DETECTOR MEASURING PROTON FLUXES ABOVE 20 KEV FAILED. AT THAT TIME, ANOTHER DETECTOR FAILED BUT SINCE ATS-5 WAS SPIN STABILIZED, THIS DETECTOR WAS COMPLETELY REDUNDANT. THE REMAINDER OF THE EXPERIMENT CONTINUES TO PERFORM NORMALLY (MARCH, 1971).

----- ATS 5, SUGIURA -----

EXPERIMENT NAME- MAGNETIC FIELD MONITOR

NSSDC ID- 69-069A-13

LAST REPORTED STATE- LAUNCHED AND OPERATING PARTIALLY
AT A SUBSTANDARD DATA ACQUISITION RATE SINCE 06/10/73.

OSS DIVISION- PHYSICS AND ASTRONOMY PROGRAMS

DISCIPLINE(S)- PARTICLES AND FIELDS

EXPERIMENT PERSONNEL (PI=PRINCIPAL INVESTIGATOR, TL=TEAM LEADER
OI=OTHER INVESTIGATOR, TM=TEAM MEMBER)
PI - M. SUGIURANASA-GSFC
GREENBELT, MD
OI - R.A. LANGELNASA-GSFC
GREENBELT, MD

EXPERIMENT BRIEF DESCRIPTION

THIS EXPERIMENT WAS DESIGNED TO STUDY THE PROCESSES TAKING PLACE ON THE AURORAL MAGNETIC SHELLS. IT WAS ALSO INTENDED TO PROVIDE CORRELATIVE DATA FOR THE CTHER EXPERIMENTS ON THE SATELLITE. THE EXPERIMENT WAS PART OF THE MAGNETIC STABILIZATION SYSTEM THAT WAS THE BACKUP FOR THE GRAVITY-GRADIENT STABILIZATION SYSTEM. THE SENSOR SYSTEM CONSISTED OF A TRIAXIAL FLUXGATE MAGNETOMETER. THE SYSTEM MEASURED THE MAGNETIC FIELD ALONG THREE AXES BY COMBINING A FINE RANGE (PLUS AND MINUS 25 GAMMAS) AND A COARSE RANGE OF 32 INCREMENTS (32.8 GAMMAS EACH) TO GIVE THE TOTAL RANGE OF PLUS AND MINUS 500 GAMMAS. THE FINE AND COARSE READINGS WERE SAMPLED ON THE PFM TELEMETRY AT 5.12-SEC INTERVALS. THE FINE READINGS ONLY WERE RECORDED ON THE PCM TELEMETRY AT 2.97-SEC INTERVALS. THE PFM COARSE READINGS WERE SUBCOMMUTATED AT 95-SEC INTERVALS. A 10-GAMMA CALIBRATION PULSE WAS INITIATED TWICE A DAY FOR 5.6 MIN. THE FAST SPIN RATE OF THE SATELLITE, THE SLOW SAMPLE RATE OF THE DATA, AND THE RESULTING ALIASING PROBLEMS DEGRADED THE DATA IN THE SPIN PLANE. THE MAGNETOMETER ITSELF HAD OPERATED SATISFACTORILY SINCE LAUNCH AND HAD ABOUT A 50 PERCENT COVERAGE UP TO THE TIME WHEN REGULARLY SCHEDULED DATA ACQUISITION WAS DISCONTINUED.

***** ATS 6 *****

SPACECRAFT COMMON NAME- ATS 6
ALTERNATE NAMES- PL-721A, ATS-F, ATS-F
NSSDC ID- 74-039A

LAST REPORTED STATE- LAUNCHED AND OPERATING NORMALLY
AT THE STANDARD DATA ACQUISITION RATE SINCE 05/30/74.

LAUNCH DATE- 05/30/74 SPACECRAFT WEIGHT- 930. KG
LAUNCH SITE- CAPE CANAVERAL, UNITED STATES
LAUNCH VEHICLE- TITAN 3C

SPCNSCRING COUNTRY/AGENCY
UNITED STATES NASA-DA

INITIAL ORBIT PARAMETERS

ORBIT TYPE- GEOCENTRIC EPOCH DATE- 05/30/74
ORBIT PERIOD- 1440. MIN INCLINATION- 1.82 DEG
PERIAPSIS- 42157. KM ALT APOAPSIS- 42168. KM ALT

RECENT ORBIT PARAMETERS

ORBIT TYPE- GEOCENTRIC EPOCH DATE- 02/23/75
ORBIT PERIOD- 1436.1 MIN INCLINATION- 1.127 DEG
PERIAPSIS- 35763.4 KM ALT APOAPSIS- 35808.1 KM ALT

SPACECRAFT PERSONNEL (PI=PROJECT MANAGER, PS=PROJECT SCIENTIST,
MG=PROGRAM MANAGER, SC=PROGRAM SCIENTIST)

PM - A.H. SABELHAUSNASA-GSFC
GREENBELT, MD
PS - E.A. WOLFFNASA-GSFC
GREENBELT, MD

SPACECRAFT BRIEF DESCRIPTION

THE PRIMARY OBJECTIVES OF ATS-6 (APPLICATIONS TECHNOLOGY SATELLITE) WERE TO ERECT IN ORBIT A LARGE HIGH-GAIN STEERABLE ANTENNA STRUCTURE CAPABLE OF PROVIDING A GOOD QUALITY TV SIGNAL TO A GROUND-BASED RECEIVER AND TO MEASURE AND EVALUATE THE PERFORMANCE OF SUCH AN ANTENNA. A SECNDARY OBJECTIVE WAS TO DEMONSTRATE NEW CONCEPTS IN SPACE TECHNOLOGY IN THE AREAS OF AIRCRAFT CONTROL, LASER COMMUNICATIONS, AND VISUAL AND INFRARED MAPPING OF THE EARTH/ATMOSPHERE SYSTEM. THE SPACECRAFT WAS ALSO CAPABLE OF (1) MEASURING RADIO FREQUENCY INTERFERENCE IN SHARED FREQUENCY BANDS AND PROPAGATION CHARACTERISTICS OF MILLIMETER WAVES, (2) PERFORMING SPACECRAFT-TO-SPACECRAFT COMMUNICATION AND TRACKING EXPERIMENTS, AND (3) MAKING PARTICLE AND RADIATION MEASUREMENTS OF THE GEOSYNCHRONOUS ENVIRONMENT. CONFIGURED SOMEWHAT LIKE AN OPEN PARASOL, THE ATS-6 SPACECRAFT CONSISTED OF FOUR MAJOR ASSEMBLIES -- (1) A 9.15-M-DIAM DISH ANTENNA, (2) TWO SOLAR CELL PADDLES MOUNTED AT 90 DEGREES TO EACH OTHER ON OPPOSITE SIDES OF AN UPPER EQUIPMENT MODULE, (3) AN EARTH-VIEWING EQUIPMENT MODULE (EVM) CONNECTED BY A TUBULAR MAST TO THE UPPER EQUIPMENT MODULE, AND (4) AN ATTITUDE CONTROL AND STABILIZATION SYSTEM. THE EVM, IN ADDITION TO HUSING THE EARTH-VIEWING EXPERIMENTS, PROVIDED SUPPORT FOR THE PROPULSION SYSTEM AND TANKS, BATTERIES, A MULTIFREQUENCY TRANSPONDER, AND THE TELEMETRY, COMMAND AND THERMAL CONTROL SYSTEMS. THE UPPER EQUIPMENT MODULE PROVIDED A PLATFORM FOR THE SPACE-VIEWING EXPERIMENTS. INERTIA WHEELS WILL BE THE PRIME MEANS FOR TORQUING THE SPACECRAFT, WITH BOTH HYDRAZINE AND AMMONIA MULTIJET THRUSTER SYSTEMS INCLUDED TO PROVIDE THE NECESSARY TORQUES FOR UNLOADING THE WHEELS. ALSO INCLUDED IS A SMALL ENVIRONMENT MEASUREMENT PACKAGE CONTAINING A MAGNETOMETER AND SEVERAL PARTICLE EXPERIMENTS. OPERATION OF THE SPACECRAFT HAS BEEN SUCCESSFUL FROM LAUNCH. THE SATELLITE IS LOCATED AT 94.41 DEG W LONGITUDE.

----- ATS 6, COLEMAN, JR. -----

EXPERIMENT NAME- MAGNETOMETER EXPERIMENT

NSSDC ID- 74-039A-02

LAST REPORTED STATE- LAUNCHED AND OPERATING NORMALLY
AT THE STANDARD DATA ACQUISITION RATE SINCE 05/30/74.

OSS DIVISION- PHYSICS AND ASTRONOMY PROGRAMS
DISCIPLINE(S)- PARTICLES AND FIELDS

EXPERIMENT PERSONNEL (PI=PRINCIPAL INVESTIGATOR, TL=TEAM LEADER
OI=OTHER INVESTIGATOR, TM=TEAM MEMBER)

PI - P.J. COLEMAN, JR.U OF CALIF, LA
LOS ANGELES, CA
OI - W.D. CUMMINGSGRAMBLING COLLEGE
GRAMBLING, LA

EXPERIMENT BRIEF DESCRIPTION

THE MAGNETIC FIELD AT SYNCHRONOUS ALTITUDE WAS MEASURED WITH THREE CORTHOGRAM FLUXGATE MAGNETOMETERS MOUNTED SYMMETRICALLY WITH RESPECT TO THE SOLAR PANELS ON A 5-M BOOM. SINCE THE SPACECRAFT DIMENSIONS INCLUDING THE ANTENNA AND SOLAR PANELS WERE LARGER THAN THE BOOM DIMENSIONS, IT WAS EXPECTED THAT THE MAGNETOMETER RESIDED IN A SIGNIFICANT SPACECRAFT FIELD. THE INSTRUMENT OPERATED BY PROVIDING BIASING COILS TO NULL THE MAGNETIC FIELD TO WITHIN PLUS OR MINUS 32 GAMMA, AND THE REMAINING FIELD WAS DIGITIZED TO 1/16 GAMMA. EIGHT VECTOR SAMPLES WERE TELEMETRED PER SEC. THE INSTRUMENT OPERATED WITH A LOWPASS DIGITAL FILTER TO REMOVE THE ALIASING EFFECT. THE 200B POINT OF THE FILTER WAS VARIABLE BY GROUND COMMAND AND WAS 1, 4, OR 12 Hz. THERE WAS ALSO AN INFLIGHT CALIBRATION MECHANISM. THE INSTRUMENT HAS PERFORMED NOMINALLY SINCE LAUNCH (11/11/74).

----- ATS 6, DAVIES -----

EXPERIMENT NAME- RADIO BEACON

NSSDC ID- 74-039A-09

LAST REPORTED STATE- LAUNCHED AND OPERATING NORMALLY
AT THE STANDARD DATA ACQUISITION RATE SINCE 10/01/74.

OSS DIVISION- PHYSICS AND ASTRONOMY PROGRAMS
DISCIPLINE(S)- IONOSPHERE + RADIO PHYSIC

EXPERIMENT PERSONNEL (PI=PRINCIPAL INVESTIGATOR, TL=TEAM LEADER
OI=OTHER INVESTIGATOR, TM=TEAM MEMBER)

PI - K. DAVIESNOAA-ERL
BOULDER, CO

PI - R.B. FRITZNOAA-ERL
BOULDER, CO
CI - R.N. GRUBBNOAA-ERL
BOULDER, CO

EXPERIMENT BRIEF DESCRIPTION

THE PURPOSE OF THIS EXPERIMENT WAS TO STUDY VARIATIONS OF IONOSPHERIC PARAMETERS (TOTAL ELECTRON CONTENT, SCINTILLATION, IRREGULARITIES, AND ABSORPTION) WITH TIME AND SOLAR AND MAGNETIC ACTIVITY, AND TO STUDY THE RELATION OF THESE VARIATIONS TO IONOSPHERIC PROCESSES. THE RADIC BEACON EXPERIMENT PROVIDED THREE COHERENT CARRIER FREQUENCIES (40.0160 MHZ, 140.056 MHZ AND 260.1440 MHZ) FOR INVESTIGATION OF PARTICLES AFFECTING RADIO PROPAGATION. THE BEACON WAS DESIGNED FOR SEVERAL TYPES OF MEASUREMENTS, PRINCIPALLY FARADAY ROTATION, DIFFERENTIAL PHASE (COPPLER), PHASE AND AMPLITUDE SCINTILLATION, AND SIGNAL AMPLITUDE (ABSORPTION). THE 40-MHZ CARRIER WAS AMPLITUDE STABILIZED TO ENABLE ACCURATE ABSORPTION MEASUREMENTS TO BE MADE. DIFFERENTIAL FARADAY MEASUREMENTS WERE POSSIBLE WITH CARRIERS AND SIDEBANDS. THE MODE OF OPERATION CALLED FOR CONTINUOUS EMISSION ON ALL FREQUENCIES. RESEARCH ORGANIZATIONS FROM A NUMBER OF COUNTRIES CONDUCTED STUDIES OF THE RADIC BEACON USING GROUND RECEIVERS BASED ON A UNIT DESIGNED BY THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION. GROUND STATIONS RANGING FROM COMPUTER-CONTROLLED UNITS TO SIMPLE MANUAL UNITS WERE LOCATED AT POINTS IN NORTH AND SOUTH AMERICA, EUROPE, THE MIDDLE EAST, INDIA, AND AFRICA. MANY OF THE UNITS WERE MOBILE AND MOVED FROM CONTINENT TO CONTINENT TO KEEP THE SPACECRAFT IN SIGHT WHEN ITS ORBIT SHIFTED ALONG THE EQUATOR. INITIAL OPERATION OF THIS EXPERIMENT WAS NOMINAL.

----- ATS 6. FRITZ -----

EXPERIMENT NAME- MEASUREMENT OF LOCAL-ENERGY FRACTIONS

NSSDC ID- 74-039A-01

LAST REPORTED STATE- LAUNCHED AND OPERATING NORMALLY
AT THE STANDARD DATA ACQUISITION RATE SINCE 06/10/74.

OSS DIVISION- PHYSICS AND ASTRONOMY PROGRAMS
DISCIPLINE(S)- PARTICLES AND FIELDS

EXPERIMENT PERSONNEL (PI=PRINCIPAL INVESTIGATOR, TL=TEAM LEADER
DI=OTHER INVESTIGATOR, TM=TEAM MEMBER)
PI - T.A. FRITZNOAA-ERL
BOULDER, CO
OI - A. KONRADINASA-JSC
HOUSTON, TX
OI - D.J. WILLIAMSNOAA-ERL
BOULDER, CO

EXPERIMENT BRIEF DESCRIPTION
SOLID-STATE DETECTORS MEASURED THE DIRECTIONAL FLUXES OF PROTONS IN THE RANGE OF 20- TO 300-KEV IN SIX ENERGY STEPS.

----- ATS 6. MASLEY -----

EXPERIMENT NAME- SCALAR COSMIC RAYS AND GEOMAGNETICALLY TRAPPED RADIATION

NSSDC ID- 74-039A-06

LAST REPORTED STATE- LAUNCHED AND OPERATING NORMALLY
AT THE STANDARD DATA ACQUISITION RATE SINCE 06/14/74.

OSS DIVISION- PHYSICS AND ASTRONOMY PROGRAMS
DISCIPLINE(S)- PARTICLES AND FIELDS

EXPERIMENT PERSONNEL (PI=PRINCIPAL INVESTIGATOR, TL=TEAM LEADER
DI=OTHER INVESTIGATOR, TM=TEAM MEMBER)
PI - A.J. MASLEYMCDONNELL-DUGLASS CORP
HUNTINGTON BEACH, CA
OI - P.R. SATTERFIELDMCDONNELL-DUGLASS CORP
HUNTINGTON BEACH, CA

EXPERIMENT BRIEF DESCRIPTION
TWO SOLID-STATE TELESCOPES, ONE DIRECTED PERPENDICULAR TO AND THE OTHER DIRECTED PARALLEL TO THE LOCAL MAGNETIC FIELD DIRECTION, EACH MEASURED PROTONS FROM 0.2 TO 300 MEV IN 12 ENERGY INTERVALS AND ALPHA PARTICLES FROM 1.2 TO 180 MEV IN 10 ENERGY INTERVALS. TWO MAGNETIC ELECTRON SPECTROMETERS, ORIENTED PARALLEL TO THE TWO TELESCOPES, WILL MEASURE ELECTRONS FROM 50 TO 800 KEV IN FOUR ENERGY INTERVALS.

----- ATS 6. MCILWAIN -----

EXPERIMENT NAME- AURORAL PARTICLES EXPERIMENT

NSSDC ID- 74-039A-08

LAST REPORTED STATE- LAUNCHED AND OPERATING NORMALLY
AT THE STANDARD DATA ACQUISITION RATE SINCE 06/15/74.

OSS DIVISION- PHYSICS AND ASTRONOMY PROGRAMS
DISCIPLINE(S)- PARTICLES AND FIELDS

EXPERIMENT PERSONNEL (PI=PRINCIPAL INVESTIGATOR, TL=TEAM LEADER
DI=OTHER INVESTIGATOR, TM=TEAM MEMBER)
PI - C.E. MCILWAINU OF CALIF, SAN DIEGO
SAN DIEGO, CA
OI - R.W. FILLIUSU OF CALIF, SAN DIEGO
SAN DIEGO, CA

EXPERIMENT BRIEF DESCRIPTION
A QUADRISpherical ELECTROSTATIC ANALYZER AND ASSOCIATED CHANNELTRON MEASURED ELECTRONS AND PROTONS FROM THERMAL

ENERGIES TO 80 KEV IN 62 OVERLAPPING STEPS OVER A RANGE OF DIFFERENT PITCH ANGLES.

----- ATS 6. PAULIKAS -----

EXPERIMENT NAME- OMNIDIRECTIONAL SPECTROMETER

NSSDC ID- 74-039A-07

LAST REPORTED STATE- LAUNCHED AND OPERATING NORMALLY
AT THE STANDARD DATA ACQUISITION RATE SINCE 06/14/74.

OSS DIVISION- PHYSICS AND ASTRONOMY PROGRAMS

DISCIPLINE(S)- PARTICLES AND FIELDS

EXPERIMENT PERSONNEL (PI=PRINCIPAL INVESTIGATOR, TL=TEAM LEADER
DI=OTHER INVESTIGATOR, TM=TEAM MEMBER)

PI - G.A. PAULIKASAEROSPACE CORP
EL SEGUNDO, CA
OI - J.B. BLAKEAEROSPACE CORP
EL SEGUNDO, CA

EXPERIMENT BRIEF DESCRIPTION

THE PURPOSE OF THIS EXPERIMENT WAS TO MEASURE THE OMNIDIRECTIONAL FLUXES AND SPECTRA OF ELECTRONS AND PROTONS. FOUR DETECTORS COUNTED PROTONS FROM 2 OR 3 TO 10 MEV, 10 TO 21 MEV, 20 TO 40 MEV, AND 40 TO 80 MEV. THEY ALSO COUNTED, RESPECTIVELY, ELECTRONS OF ENERGIES GREATER THAN 80 KEV AND 250 KEV, 600 KEV, 1.2 MEV, AND 4 MEV.

----- ATS 6. WINCKLER -----

EXPERIMENT NAME- PARTICLE ACCELERATION MECHANISMS AND DYNAMICS OF THE OUTER TRAPPING REGION

NSSDC ID- 74-039A-04

LAST REPORTED STATE- LAUNCHED AND OPERATING NORMALLY
AT THE STANDARD DATA ACQUISITION RATE SINCE 06/14/74.

OSS DIVISION- PHYSICS AND ASTRONOMY PROGRAMS

DISCIPLINE(S)- PARTICLES AND FIELDS

EXPERIMENT PERSONNEL (PI=PRINCIPAL INVESTIGATOR, TL=TEAM LEADER
DI=OTHER INVESTIGATOR, TM=TEAM MEMBER)

PI - J.R. WINCKLERU OF MINNESOTA
MINNEAPOLIS, MN
OI - G.K. PARKSU OF WASHINGTON
SEATTLE, WA

EXPERIMENT BRIEF DESCRIPTION

THIS EXPERIMENT INVESTIGATED THE ORIGIN OF THE VAN ALLEN TRAPPED RADIATION. IT CONSISTED OF A MAGNETIC DEFLECTION SEPARATION SYSTEM AND A SOLID-STATE PARTICLE COUNTER SYSTEM. THE PARTICLE COUNTERS HAD DIRECTIONAL CAPABILITIES SO THAT PARTICLE PITCH ANGLES COULD BE DETERMINED. THE SYSTEM RESPONDED TO PROTONS IN THE RANGES 20 TO 50 KEV, 50 TO 150 KEV, AND 150 TO 500 KEV, AND TO ELECTRONS IN THE RANGES 20 TO 40 KEV, 100 TO 200 KEV, AND 1.0 TO 1.5 MEV.

***** EGRET *****

SPACECRAFT COMMON NAME- EGRET

ALTERNATE NAMES- GAMMA-RAY EXPLORER

NSSDC ID- EGRET

LAST REPORTED STATE- A PROPOSED MISSION

LAUNCH DATE- 00/00/79 SPACECRAFT WEIGHT- 1819. KG

LAUNCH SITE- CAPE CANAVERAL, UNITED STATES

LAUNCH VEHICLE- SHUTTLE

SPONSORING COUNTRY/AGENCY

UNITED STATES NASA-OSS

PLANNED ORBIT PARAMETERS

ORBIT TYPE- GEOCENTRIC INCLINATION- 28.5 DEG
ORBIT PERIOD- 70. MIN PERIAPSIS- 6874. KM ALT APOAPSIS- 6874. KM ALT

SPACECRAFT PERSONNEL (PM=PROJECT MANAGER, PS=PROJECT SCIENTIST, MG=PROGRAM MANAGER, SC=PROGRAM SCIENTIST)

PM - F.J. CEPOLLINANASA-GSFC GREENBELT, MD

PS - C. FICHTELNASA-GSFC GREENBELT, MD

MG - J. HOLTZNASA HEADQUARTERS WASHINGTON, DC

SC - A. OPPNASA HEADQUARTERS WASHINGTON, DC

SPACECRAFT BRIEF DESCRIPTION

THE EXPLORER GAMMA-RAY EXPERIMENT TELESCOPE (EGRET) WILL PERFORM GAMMA-RAY OBSERVATIONS AT HIGHER SENSITIVITY, OF BETTER SPATIAL AND SPECTRAL RESOLUTION, AND WITH IMPROVED LEVEL OF GAMMA-RAY IDENTIFICATION THAN PREVIOUSLY ATTAINED. A SINGLE INSTRUMENTATION PACKAGE WILL BE UTILIZED. THIS UNIT WILL BE A COMPOUND SPARK CHAMBER ASSEMBLY CAPABLE OF DETECTING GAMMA-RAYS OF ENERGIES FROM 25 TO 364 MEV. THE PRIMARY MISSION OBJECTIVES ARE -- (1) A STUDY OF THE GALACTIC PLANE STRUCTURE WITH HIGH STATISTICAL ACCURACY, GOOD ENERGY RESOLUTION OVER A WIDE RANGE, AND GOOD ANGULAR ACCURACY, (2) MEASUREMENT OF THE INTENSITY AND ENERGETIC SPECTRUM OF THE DIFFUSE RADIATION FROM REGIONS OTHER THAN THE GALACTIC PLANE, (3) A FULL SKY SURVEY FOR DISCRETE SOURCES AND MEASUREMENT OF THEIR FLUX, ENERGY SPECTRUM, AND LOCATION, (4) SEARCH FOR SHORT INTENSE BURSTS OF GAMMA RAYS, AND, (5) SEARCH FOR

PERIODIC GAMMA RAY EMISSIONS.

***** ELECTRODYNAMICS EXPLORER *****

SPACECRAFT COMMON NAME- ELECTRODYNAMICS EXPLORER
ALTERNATE NAMES-
NSSDC ID- EE

LAST REPORTED STATE- A PROPOSED MISSION

LAUNCH DATE- 00/00/75 SPACECRAFT WEIGHT- KG
LAUNCH SITE-
LAUNCH VEHICLE-SPONSORING COUNTRY/AGENCY
UNITED STATES NASA-CSS

PLANNED ORBIT PARAMETERS

ORBIT TYPE-
ORBIT PERIOD-
PERIAPSIS- INCLINATION- DEG
APOAPSIS-SPACECRAFT PERSONNEL (PM=PROJECT MANAGER, PS=PROJECT SCIENTIST,
MG=PROGRAM MANAGER, SC=PROGRAM SCIENTIST)
PM - D.W. GRIMES NASA-GSFC

GREENBELT, MD

SPACECRAFT BRIEF DESCRIPTION

THE PURPOSE OF THE ELECTRODYNAMICS EXPLORER MISSION WILL BE TO STUDY THE BASIC ELECTRODYNAMICS OF THE EARTH'S MAGNETOSPHERE-IONOSPHERE SYSTEM. THE SYSTEM'S DRIVING FORCES (VECTOR ELECTRIC FIELDS AND NEUTRAL WINDS), DRIVEN QUANTITIES (CURRENTS, PLASMAS, SUPRATHERMAL PARTICLES, WAVES, AND NEUTRAL GASES) AND GRID (THE VECTOR MAGNETIC FIELD) WILL BE MEASURED. IT HAS BEEN PROPOSED THAT THE MISSION CONSIST OF A PAIR OF SPACECRAFT, ONE ATTITUDE CONTROLLED IN A LOW ALTITUDE POLAR ORBIT AND THE OTHER OF UNDEFINED STABILIZATION REQUIREMENTS IN A POLAR ECCENTRIC ORBIT WITH APOGEE VARIABLE BETWEEN 3 AND 6 EARTH RADII. KNOWLEDGE OF SPACECRAFT ATTITUDE MUST BE GOOD TO WITHIN 0.1 DEGREE. CNBOARD PROPULSION WILL BE USED TO ALLOW THE CHANGING OF ORBIT PARAMETERS. THE TWO SPACECRAFT WILL BE COPLANAR, WITH MANY SIMULTANEOUS FIELD-LINE CROSSINGS THAT WILL BE PARTICULARLY USEFUL IN THE STUDY OF CURRENTS, PARTICLE ACCELERATIONS, ETC. THE SPACECRAFT WILL HAVE SELECTABLE BIT RATES AND DATA FORMATS TO OPTIMIZE THE UTILITY OF THE RETURNED DATA. IT IS ENVISIONED THAT EXCEPT FOR THE DETAILS OF THE DETECTOR COMPLEMENT, THE SPACECRAFT WILL RESEMBLE THE ATMOSPHERIC EXPLORER (AE) SPACECRAFT. THE TEAM APPROACH OF THE AE SERIES WILL PROBABLY BE UTILIZED FOR DATA HANDLING, WITH REMOTE TERMINALS AT EXPERIMENTER'S INSTITUTIONS AND WITH DATA FROM ALL EXPERIMENTS BEING ACCESSIBLE TO EACH EXPERIMENTER. THIS INFORMATION IS BASED ON AN INFORMAL GSFC STUDY. A FORMAL MISSION STUDY HAS NOT YET BEEN APPROVED BY NASA HEADQUARTERS.

***** HAWKEYE 1 *****

SPACECRAFT COMMON NAME- HAWKEYE 1
ALTERNATE NAMES- INJUN-F, NEUTRAL POINT EXPLORER
EXPLORER 52
NSSDC ID- 74-040ALAST REPORTED STATE- LAUNCHED AND OPERATING NORMALLY
AT THE STANDARD DATA ACQUISITION RATE SINCE 06/03/74.LAUNCH DATE- 06/03/74 SPACECRAFT WEIGHT- 26.1 KG
LAUNCH SITE- VANDENBERG AFB, UNITED STATES
LAUNCH VEHICLE- SLCUTSPONSORING COUNTRY/AGENCY
UNITED STATES NASA-OSS

INITIAL ORBIT PARAMETERS

ORBIT TYPE- GEOCENTRIC EPOCH DATE- 06/03/74
ORBIT PERIOD- 3022. MIN INCLINATION- 89.7 DEG
PERIAPSIS- 6848. KM ALT APOAPSIS- 131948. KM ALTRECENT ORBIT PARAMETERS
ORBIT TYPE- GEOCENTRIC EPOCH DATE- 02/25/75
ORBIT PERIOD- 3076.6 MIN INCLINATION- 89.7 DEG
PERIAPSIS- 2998. KM ALT APOAPSIS- 124388. KM ALTSPACECRAFT PERSONNEL (PM=PROJECT MANAGER, PS=PROJECT SCIENTIST,
MG=PROGRAM MANAGER, SC=PROGRAM SCIENTIST)

PM - J.E. ROGERS U OF IOWA

IOWA CITY, IA

PM - C.W. COFFEE, JR. NASA-LARC

HAMPTON, VA

PS - J.A. VAN ALLEN U OF IOWA

IOWA CITY, IA

MG - J.R. HOLTZ NASA HEADQUARTERS

WASHINGTON, DC

SC - L.D. KAVANAGH NASA HEADQUARTERS

WASHINGTON, DC

SPACECRAFT BRIEF DESCRIPTION

HAWKEYE WAS PART OF THE U.S. CONTRIBUTION TO THE INTERNATIONAL MAGNETOSPHERIC STUDY. THE MAIN PURPOSE OF THIS FLIGHT WAS TO STUDY THE NEUTRAL POINT REGION OF THE MAGNETOSPHERE. THE EXPERIMENTS INCLUDED PARTICLE AND FIELD OBSERVATIONS AND LOW-ENERGY PLASMA STUDIES RELEVANT TO THE DYNAMICS OF SOLAR WIND INJECTION INTO THE MAGNETOSPHERE. THE SPACECRAFT WAS SPIN-STABILIZED WITH A SPIN RATE OF ABOUT 6 RPM AND A SPIN VECTOR PARALLEL TO THE EARTH'S EQUATORIAL PLANE.

INITIAL APOGEE POSITION WAS OVER THE EARTH'S POLAR CAP IN THE NOON-DUSK QUADRANT. INITIAL SPACECRAFT AND EXPERIMENT PERFORMANCE WAS NORMAL.

***** HELIOS-A *****

SPACECRAFT COMMON NAME- HELIOS-A
ALTERNATE NAMES- HELIO-A, PL-7A
NSSDC ID- 74-097ALAST REPORTED STATE- LAUNCHED AND OPERATING NORMALLY
AT THE STANDARD DATA ACQUISITION RATE SINCE 12/10/74.LAUNCH DATE- 12/10/74 SPACECRAFT WEIGHT- 210. KG
LAUNCH SITE- CAPE CANAVERAL, UNITED STATES
LAUNCH VEHICLE- TITAN-CENTSPONSORING COUNTRY/AGENCY
FED REP OF GERMANY BWF
UNITED STATES NASA-OSSINITIAL ORBIT PARAMETERS
ORBIT TYPE- HELIOCENTRIC EPOCH DATE- 01/16/75
ORBIT PERIOD- 190.2 DAYS INCLINATION- 0.02 DEG
PERIAPSIS- 0.3095 AU RAD APOAPSIS- 0.985 AU RADRECENT ORBIT PARAMETERS
ORBIT TYPE- HELIOCENTRIC EPOCH DATE- 01/16/75
ORBIT PERIOD- 190.2 DAYS INCLINATION- 0.02 DEG
PERIAPSIS- 0.3095 AU RAD APOAPSIS- 0.985 AU RADSPACECRAFT PERSONNEL (PM=PROJECT MANAGER, PS=PROJECT SCIENTIST,
MG=PROGRAM MANAGER, SC=PROGRAM SCIENTIST)PM - A. KUTZER GES FUR WELTRAUMFORSCH
BONN, FED REP OF GERMANY

PM - G.W. GUSLEY NASA-GSFC

GREENBELT, MD

PS - H. PORSCHE ORG FOR SPACE RES
MUNICH, FED REP OF GERMANY

PS - J.H. TRAINOR NASA-GSFC

GREENBELT, MD

MG - F.D. KOCHENDORFER NASA HEADQUARTERS

WASHINGTON, DC

SC - A.G. OPP NASA HEADQUARTERS

WASHINGTON, DC

SPACECRAFT BRIEF DESCRIPTION

THE HELIOS-A SPACECRAFT IS DESIGNED AS A SOLAR PROBE TO CARRY SCIENTIFIC EXPERIMENTS ON AN INTERPLANETARY MISSION APPROACHING TO ABOUT 0.3 AU OF THE SUN. THE EXPERIMENTS WILL BE PROVIDED BY A GROUP OF GERMAN AND AMERICAN SCIENTISTS, WITH NASA SUPPLYING THE TITAN CENTAUR LAUNCH VEHICLE AND THE FEDERAL REPUBLIC OF GERMANY SUPPLYING THE SPACECRAFT.

----- HELIOS-A, GURNETT -----

EXPERIMENT NAME- RADIO FREQUENCY ELECTRIC FIELDS IN SOLAR PLASMA

NSSDC ID- 74-097A-13

LAST REPORTED STATE- LAUNCHED AND OPERATING NORMALLY
AT THE STANDARD DATA ACQUISITION RATE SINCE 12/10/74.OSS DIVISION- PLANETARY PROGRAMS
DISCIPLINE(S)- IONOSPHERES PARTICLES AND FIELDSEXPERIMENT PERSONNEL (PI=PRINCIPAL INVESTIGATOR, TL=TEAM LEADER
OI=OTHER INVESTIGATOR, TM=TEAM MEMBER)

PI - D.A. GURNETT U OF IOWA

IOWA CITY, IA

OI - S.J. BAUER NASA-GSFC

GREENBELT, MD

OI - P.S. KELLOGG U OF MINNESOTA

MINNEAPOLIS, MN

OI - R.G. STONE NASA-GSFC

GREENBELT, MD

EXPERIMENT BRIEF DESCRIPTION

THIS EXPERIMENT MEASURED THE SPECTRUM OF THE ELECTRIC FIELD IN 16 CHANNELS IN THE PLASMA FREQUENCY RANGE (10 Hz TO 100 KHz) AND CONTINUOUSLY IN THE RADIO FREQUENCY RANGE (50 KHz TO 2 MHz). THE OBJECTIVES OF THIS EXPERIMENT WERE TO ANALYZE (1) THE SPATIAL AND TEMPORAL VARIATIONS IN ELECTRIC FIELD FLUCTUATIONS ALONG THE TRAJECTORY OF THE PROBE, (2) THE RELATIONSHIP OF THE FREQUENCY AND CHARACTERISTICS OF THE PLASMA NOISE WITH SOLAR WIND CHARACTERISTICS AND CORONA ACTIVITIES, AND (3) TO OBSERVE SOLAR RADIO-NOISE BURSTS AND TO CORRELATE THEM WITH SOLAR COSMIC RAYS. A DIPOLE ANTENNA PERPENDICULAR TO THE SPIN AXIS OF THE PROBE PROVIDED THE COUPLING TO THE PLASMA. THE ELECTRIC FIELD SIGNAL WAS PROCESSED BY TWO SPECTRUM ANALYZERS AND A DUAL SWEEP-FREQUENCY RADIOMETER.

***** HELIOS-B *****

SPACECRAFT COMMON NAME- HELIOS-B
ALTERNATE NAMES- HELIO-B, PL-751A
NSSDC ID- HELIO-B

LAST REPORTED STATE- AN APPROVED MISSION

LAUNCH DATE- JAN. 76 SPACECRAFT WEIGHT- 210. KG
LAUNCH SITE- CAPE CANAVERAL, UNITED STATES
LAUNCH VEHICLE- TITAN-CENT

SPONSORING COUNTRY/AGENCY
 FED REP OF GERMANY BMWF
 UNITED STATES NASA-CSS

PLANNED ORBIT PARAMETERS

ORBIT TYPE- HELIOCENTRIC
 ORBIT PERIOD- 152. DAYS INCLINATION- 0. DEG
 PERIAPSIS- 0.3 AU RAD APOAPSIS- AU RAD

SPACECRAFT PERSONNEL (PM=PROJECT MANAGER, PS=PROJECT SCIENTIST,
 MG=PROGRAM MANAGER, SC=PROGRAM SCIENTIST)
 PM - A. KUTZERGES FUR ULTRAFORSCH
 BONN, FED REP OF GERMANY
 PM - G.W. OUSLEYNASA-GSFC
 GREENBELT, MD
 PS - H. PORSCHECRG FCR SPACE RES
 MUNICH, FED REP OF GERMANY
 PS - J.H. TRAINORNASA-GSFC
 GREENBELT, MD
 MG - F.D. KOCHENDORFERNASA HEADQUARTERS
 WASHINGTON, DC
 SC - A.G. OPPNASA HEADQUARTERS
 WASHINGTON, DC

SPACECRAFT BRIEF DESCRIPTION

THE HELIOS-B SPACECRAFT IS DESIGNED AS A SOLAR PROBE TO CARRY SCIENTIFIC EXPERIMENTS ON AN INTERPLANETARY MISSION APPROACHING TO ABOUT 0.3 AU OF THE SUN. THE EXPERIMENTS WILL BE PROVIDED BY A GROUP OF GERMAN AND U.S. SCIENTISTS, WITH NASA SUPPLYING THE TITAN CENTAUR LAUNCH VEHICLE AND THE FEDERAL REPUBLIC OF GERMANY SUPPLYING THE SPACECRAFT.

----- HELIOS-B, GURNETT -----

EXPERIMENT NAME- RADIO FREQUENCY ELECTRIC FIELDS IN SOLAR PLASMA

NSSDC ID- HELIO-B-13

LAST REPORTED STATE- APPROVED

DSS DIVISION- PLANETARY PROGRAMS

DISCIPLINE(S)- IONOSPHERES PARTICLES AND FIELDS
 PARTICLES AND FIELDS IONOSPHERES

EXPERIMENT PERSONNEL (PI=PRINCIPAL INVESTIGATOR, TL=TEAM LEADER
 DI=OTHER INVESTIGATOR, TM=TEAM MEMBER)

PI - D.A. GURNETTU OF IOWA
 IDA CITY, IA
 DI - S.J. BAUERNASA-GSFC
 GREENBELT, MD
 DI - P.S. KELLOGGU OF MINNESOTA
 MINNEAPOLIS, MN
 DI - R.G. STONENASA-GSFC
 GREENBELT, MD

EXPERIMENT BRIEF DESCRIPTION

THIS EXPERIMENT MEASURED THE SPECTRUM OF THE ELECTRIC FIELD IN 16 CHANNELS IN THE PLASMA FREQUENCY RANGE (10 HZ TO 100 KHZ) AND CONTINUOUSLY IN THE RADIO FREQUENCY RANGE (50 KHZ TO 2 MHZ). THE OBJECTIVES OF THIS EXPERIMENT WERE TO ANALYZE (1) THE SPATIAL AND TEMPORAL VARIATIONS IN ELECTRIC FIELD FLUCTUATIONS ALONG THE TRAJECTORY OF THE PROBE, (2) THE RELATIONSHIP OF THE FREQUENCY AND CHARACTERISTICS OF THE PLASMA NOISE WITH SOLAR WIND CHARACTERISTICS AND CORONA ACTIVITIES, AND (3) TO OBSERVE SOLAR RADIO-NCISE BURSTS AND TO CORRELATE THEM WITH SOLAR COSMIC RAYS. A DIPOLE ANTENNA PERPENDICULAR TO THE SPIN AXIS OF THE PROBE PROVIDED THE COUPLING TO THE PLASMA. THE ELECTRIC FIELD SIGNAL WAS PROCESSED BY TWO SPECTRUM ANALYZERS AND A DUAL S-EEP-FREQUENCY RADIOMETER.

***** ONE METER UV TELESCOPE *****

SPACECRAFT COMMON NAME- ONE METER UV TELESCOPE
 ALTERNATE NAMES- SPACELAB ASTRONOMY MISS, SPACELAB IM UV TELESC
 NSSDC ID- CMUVT-01

LAST REPORTED STATE- A PROPOSED MISSION

LAUNCH DATE- 1982 SPACECRAFT WEIGHT- KG
 LAUNCH SITE- CAPE CANAVERAL, UNITED STATES
 LAUNCH VEHICLE- SHUTTLE

SPONSORING COUNTRY/AGENCY
 UNITED STATES NASA-CSS

PLANNED ORBIT PARAMETERS

ORBIT TYPE- GEOCENTRIC
 ORBIT PERIOD- 90. MIN INCLINATION- 25. DEG
 PERIAPSIS- 300. KM ALT APOAPSIS- 300. KM ALT

SPACECRAFT PERSONNEL (PM=PROJECT MANAGER, PS=PROJECT SCIENTIST,
 MG=PROGRAM MANAGER, SC=PROGRAM SCIENTIST)

PM - D.S. LECKRONENASA-GSFC
 GREENBELT, MD
 SC - J.D. ROSENDHALNASA HEADQUARTERS
 WASHINGTON, DC

SPACECRAFT BRIEF DESCRIPTION

DURING THE 1980'S, NASA WILL USE THE SPACE SHUTTLE AS ITS PRIMARY TRANSPORTATION SYSTEM FOR CARRYING INSTRUMENTATION INTO NEAR EARTH ORBIT. UNDER THE SPACELAB PROGRAM (DIRECTED BY ESRO) THE SHUTTLE'S PAYLOAD BAY IS BEING CONFIGURED AND EQUIPPED TO ACT AS A GENERALIZED IN-ORBIT LABORATORY. ONE PROPOSED SPACECRAFT MISSION IS TO FLY A ONE-METER GENERAL

PURPOSE TELESCOPE CAPABLE OF PERFORMING NON-SOLAR ASTRONOMICAL OBSERVATIONS FROM THE VACUUM UV THROUGH THE VISIBLE WAVELENGTH RANGE. THE INITIAL DEFINITION OF THE REQUIREMENTS FOR THIS IM UV-OPTICAL SPACELAB TELESCOPE AND RELATED SUPPORT SYSTEMS BEGAN IN DECEMBER 1974. THE ORGANIZATION AND IMPLEMENTATION OF THE UV-OPTICAL TELESCOPE STUDY WILL BE CARRIED OUT BY AN INSTRUMENT DEFINITION TEAM (IDT) WHOSE MEMBERS HAVE BEEN CHOSEN FROM SCIENTISTS THROUGHOUT THE WORLD ON THE BASIS OF SUBMITTED PROPOSALS. THIS IDT WILL INTERACT WITH NASA THROUGH A NASA STUDY SCIENTIST APPOINTED BY GSFC.

----- ONE METER UV TELESCOPE, MENIZE -----

EXPERIMENT NAME- INSTRUMENT DEFINITION TEAM

NSSDC ID- CMUVT-01

LAST REPORTED STATE- APPROVED CONDITIONALLY

DSS DIVISION- PHYSICS AND ASTRONOMY PROGRAMS
 DISCIPLINE(S)- ASTRONOMY

EXPERIMENT PERSONNEL (PI=PRINCIPAL INVESTIGATOR, TL=TEAM LEADER
 DI=OTHER INVESTIGATOR, TM=TEAM MEMBER)

TL - K.G. MENIZENASA-JSC
 HOUSTON, TX
 TM - A.M. SMITHNASA-GSFC
 GREENBELT, MD
 TM - C.M. ANDERSONU OF WISCONSIN
 MADISON, WI
 TM - R.W. O'CONNELLU OF VIRGINIA
 CHARLOTTESVILLE, VA
 TM - E.B. JENKINSPRINCETON U
 PRINCETON, NJ

EXPERIMENT BRIEF DESCRIPTION

THE SPECIFIC GOAL OF THE INSTRUMENT DEFINITION TEAM (IDT) IS TO ESTABLISH THE SCIENTIFIC MERIT AND APPROVE PRELIMINARY CONCEPTUAL DESIGN OF A FLEXIBLE, GENERAL PURPOSE, IM CLASS UV-OPTICAL FACILITY TELESCOPE FOR SPACELAB ASTRONOMY MISSIONS. THE END PRODUCTS OF THE DEFINITION STUDY WILL INCLUDE (1) A DELINEATION OF BROAD SCIENTIFIC GOALS AND THE DEFINITION OF REPRESENTATIVE OBSERVING PROGRAMS, (2) A THOROUGH STATEMENT OF REQUIREMENTS FOR TELESCOPE AND SUPPORT SYSTEMS PERFORMANCE NECESSARY TO THE FACILITY SCIENTIFIC OBJECTIVES, (3) PRELIMINARY DESCRIPTIONS OF SEVERAL ILLUSTRATIVE FOCAL PLANE INSTRUMENTS, AND (4) A WELL DEVELOPED CONCEPT OF THE TOTAL OPERATING TELESCOPE FACILITY INCLUDING COMMAND AND CONTROL MECHANISMS, DATA HANDLING, GROUND OPERATIONS, USER INVOLVEMENT, ETC. THE ACTIVITIES OF THE IDT ARE EXPECTED TO LAST 1 YEAR, CULMINATING IN THE PREPARATION OF A FINAL REPORT BY DECEMBER 1975.

***** PIONEER 10 *****

SPACECRAFT COMMON NAME- PIONEER 10
 ALTERNATE NAMES- PIONEER-F, PL-7230
 05860

NSSDC ID- 72-012A

LAST REPORTED STATE- LAUNCHED AND OPERATING NORMALLY
 AT THE STANDARD DATA ACQUISITION RATE SINCE 03/03/72.

LAUNCH DATE- 03/03/72 SPACECRAFT WEIGHT- 231. KG
 LAUNCH SITE- CAPE CANAVERAL, UNITED STATES
 LAUNCH VEHICLE- ATLAS-CENT

SPONSORING COUNTRY/AGENCY
 UNITED STATES NASA-DSS

SPACECRAFT PERSONNEL (PM=PROJECT MANAGER, PS=PROJECT SCIENTIST,
 MG=PROGRAM MANAGER, SC=PROGRAM SCIENTIST)

PM - C.F. HALLNASA-ARC
 MOFFETT FIELD, CA
 PS - J.H. WOLFENASA-ARC
 MOFFETT FIELD, CA
 MG - F.D. KOCHENDORFERNASA HEADQUARTERS
 WASHINGTON, DC
 SC - A.G. OPPNASA HEADQUARTERS
 WASHINGTON, DC

SPACECRAFT BRIEF DESCRIPTION

PIONEER 10 WAS THE FIRST OF TWO 258-KG, SPIN-STABILIZED (AT 4.8 RPM), EARTH-POINTING SPACECRAFT DESIGNED TO PROVIDE INFORMATION ON THE INTERPLANETARY MEDIUM, THE ASTEROID BELT, AND JUPITER AND ITS ENVIRONMENT. THE SPACECRAFT COMPLEMENT OF 11 EXPERIMENTS INCLUDED PLASMA AND ENERGETIC PARTICLE DETECTORS, A MAGNETOMETER, METEOROID DETECTORS, AN IMAGING PHOTOPOLARIMETER, A UV PHOTOMETER AND AN IR RADIOMETER. PASSIVE IONOSPHERIC OCCULTATION AND CELESTIAL MECHANICS STUDIES WERE ALSO CARRIED OUT. POWER WAS PROVIDED BY FOUR BCCM-MOUNTED RADIONUCLIDE THERMOELECTRIC GENERATORS. EIGHT BIT RATES (8 TO 2048 BPS) WERE AVAILABLE. DURING JOVIAN ENCOUNTER THE BIT RATE WAS 1024 BPS. PIONEER 10 CROSSED THE JOVIAN BOW SHOCK AT ABOUT 108 PLANETARY RADII ON NOVEMBER 26, 1973, ALMOST 21 MONTHS AFTER LAUNCH AND AFTER SURVIVING ITS TRANSIT OF THE ASTEROID BELT WITH NO DAMAGE. CLOSEST APPROACH OCCURRED ON DECEMBER 4, 1973, AT 130,000 KM (1.0 PLANETARY RADII) ABOVE THE CLOUD TOPS. FINAL EXIT FROM THE JOVIAN MAGNETOSHEATH OCCURRED AT ABOUT 240 PLANETARY RADII. DESPITE THE INTENSE FLUXES OF VERY ENERGETIC PARTICLES, THE SPACECRAFT SYSTEMS (EXCEPT THE SPACECRAFT STELLAR REFERENCE ASSEMBLY) AND EXPERIMENTS (EXCEPT FOR THE ASTEROID-METEOROID DETECTOR) SURVIVED THE JOVIAN ENCOUNTER WELL. THE SPACECRAFT IS NOW ON A TRAJECTORY OF ESCAPE FROM THE SOLAR SYSTEM. IT IS EXPECTED

TO TRANSMIT DATA UNTIL 1977, WHEN THE SPACECRAFT WILL BE ABOUT 20 AU AWAY.

----- PIONEER 10, GEHRELS -----

EXPERIMENT NAME- HIGH RESOLUTION PHOTO-IMAGING OF JUPITER'S CLOUD COVER

NSSDC ID- 72-012A-15

LAST REPORTED STATE- LAUNCHED AND OPERATING NORMALLY AT THE STANDARD DATA ACQUISITION RATE SINCE 03/03/72.

OSS DIVISION- PLANETARY PROGRAMS

DISCIPLINE(S)- ASTRONOMY

PLANETARY ATMOSPHERES

PLANETOLOGY

EXPERIMENT PERSONNEL (PI=PRINCIPAL INVESTIGATOR, TL=TEAM LEADER, DI=OTHER INVESTIGATOR, TM=TEAM MEMBER)

PI - T. GEHRELSU OF ARIZONA

TUCSON, AZ

DI - D.L. COFFEENNASA-GISS

NEW YORK, NY

DI - J. HAMEEN-ANTTILAU OF ARIZONA

TUCSON, AZ

DI - W. SWINDELLU OF ARIZONA

TUCSON, AZ

DI - R.F. HUMMERSANTA BARBARA RES CTR

GOLETA, CA

DI - C.E. KENKNIGHTU OF ARIZONA

TUCSON, AZ

DI - J.L. WEINBERGDUDLEY OBS

ALBANY, NY

EXPERIMENT BRIEF DESCRIPTION

THE OBJECTIVES OF THIS EXPERIMENT WERE TO CONDUCT A HIGH-RESOLUTION PHOTOCOMMUNICATION INVESTIGATION OF JUPITER'S CLOUD SURFACE, TO DETERMINE THE AMOUNT OF GAS ABOVE THE CLOUDS, AND TO STUDY THE ZODIACAL LIGHT AND ASTEROIDAL MATERIAL DURING THE FLIGHT TO JUPITER. AN IMAGING PHOTOPOLARIMETER SPIN SCANNED THE SKY DURING THE INTERPLANETARY TRAJECTORY TO MEASURE BRIGHTNESS AND POLARIZATION. A WOLLASTON PRISM MEASURED POLARIMETRY WHILE BLUE AND RED FILTERS PROVIDED TWO-COLOR IMAGES. AN EYEBALL ON THE TELESCOPE ENABLED THE INSTRUMENT TO TRACK THE PLANET THROUGH 90 DEG DURING ENCOUNTER.

***** PIONEER 11 *****

SPACECRAFT COMMON NAME- PIONEER 11

ALTERNATE NAMES- PIONEER-G, PL-733C

6421

NSSDC ID- 73-019A

LAST REPORTED STATE- LAUNCHED AND OPERATING NORMALLY AT THE STANDARD DATA ACQUISITION RATE SINCE 04/06/73.

LAUNCH DATE- 04/06/73 SPACECRAFT WEIGHT- 231. KG

LAUNCH SITE- CAPE CANAVERAL, UNITED STATES

LAUNCH VEHICLE- ATLAS-CENT

SPONSORING COUNTRY/AGENCY

UNITED STATES NASA-CSS

SPACECRAFT PERSONNEL (PM=PROJECT MANAGER, PS=PROJECT SCIENTIST, MG=PROGRAM MANAGER, SC=PROGRAM SCIENTIST)

PM - C.F. HALLNASA-ARC

EPOCH DATE- 06/21/73
INCLINATION- 55.7 DEG
APOAPSIS- 1063.84 KM ALT

PS - J.H. WOLFENASA-ARC

EPOCH DATE- 02/24/75
INCLINATION- 67.1 DEG
APOAPSIS- 1085. KM ALT

MG - F.O. KOCHENDREFFERNASA HEADQUARTERS

GREENBELT, MD

WASHINGTON, DC

SC - A.G. OPPNASA HEADQUARTERS

GREENBELT, MD

WASHINGTON, DC

SPACRAFT BRIEF DESCRIPTION

PIONEER 11 WAS THE SECOND OF TWO 231-KG, SPIN-STABILIZED EARTH-POINTING SPACECRAFT DESIGNED TO PROVIDE INFORMATION ON THE INTERPLANETARY MEDIUM, THE ASTEROID BELT AND THE NEAR-JUPITER ENVIRONMENT. THIS JUPITER FLY-BY SPACECRAFT WAS POWERED BY A RADARISCOPE THERMOELECTRIC GENERATOR AND A BATTERY. THE SPACECRAFT INSTRUMENTATION STUDIED THE INTERPLANETARY AND POSSIBLE JUPITER MAGNETIC FIELDS, THE SOLAR WIND AND JUPITER BOW SHOCK AND MAGNETOPAUSE BOUNDARIES, SOLAR AND GALACTIC COSMIC RAYS, INTERPLANETARY CHARGED PARTICLES AND POSSIBLE JUPITER TRAPPED RADIATION, JUPITER THERMAL ENERGY FLUX, ZODIACAL LIGHT, ASTEROIDS AND METEOROIDS, AND INTERPLANETARY AND JUPITER ULTRAVIOLET RADIATION. AN S-BAND OCCULTATION EXPERIMENT AND A JUPITER IMAGING AND PHOTOPOLARIZATION EXPERIMENT WERE PERFORMED. THE SPACECRAFT EXPERIENCED CLOSEST JUPITER APPROACH (0.6 PLANETARY RADII FROM SURFACE) ON DECEMBER 3, 1974, WITH MINIMAL FACILITATION DAMAGE. THE SPACECRAFT IS NOW APPROACHING A SEPT. 1979 SATURN ENCOUNTER.

----- PIONEER 11, GEHRELS -----

EXPERIMENT NAME- HIGH RESOLUTION PHOTO-IMAGING OF JUPITER'S CLOUD COVER

NSSDC ID- 73-019A-16

LAST REPORTED STATE- LAUNCHED AND OPERATING NORMALLY AT THE STANDARD DATA ACQUISITION RATE SINCE 04/06/73.

OSS DIVISION- PLANETARY PROGRAMS

DISCIPLINE(S)- ASTRONOMY

PLANETARY ATMOSPHERES

SOLAR PHYSICS

EXPERIMENT PERSONNEL (PI=PRINCIPAL INVESTIGATOR, TL=TEAM LEADER, DI=OTHER INVESTIGATOR, TM=TEAM MEMBER)

PI - T. GEHRELSU OF ARIZONA

TUCSON, AZ

DI - D.L. COFFEENNASA-GISS

NEW YORK, NY

DI - J. HAMEEN-ANTTILAU OF ARIZONA

TUCSON, AZ

DI - W. SWINDELLU OF ARIZONA

TUCSON, AZ

DI - R.F. HUMMERSANTA BARBARA RES CTR

GOLETA, CA

DI - C.E. KENKNIGHTU OF ARIZONA

TUCSON, AZ

DI - J.L. WEINBERGDUDLEY OBS

ALBANY, NY

EXPERIMENT BRIEF DESCRIPTION

THE OBJECTIVES OF THIS EXPERIMENT WERE TO CONDUCT A HIGH-RESOLUTION PHOTOIMAGING INVESTIGATION OF JUPITER'S CLOUD SURFACE, TO DETERMINE THE AMOUNT OF GAS ABOVE THE CLOUDS, AND TO STUDY THE ZODIACAL LIGHT AND ASTEROIDAL MATERIAL DURING THE FLIGHT TO JUPITER. AN IMAGING PHOTOPOLARIMETER SPIN SCANNED THE SKY DURING THE INTERPLANETARY TRAJECTORY TO MEASURE BRIGHTNESS AND POLARIZATION. A WOLLASTON PRISM MEASURED POLARIMETRY WHILE BLUE AND RED FILTERS PROVIDED TWO-COLOR IMAGES. AN EYEBALL ON THE TELESCOPE ENABLED THE INSTRUMENT TO TRACK THE PLANET THROUGH 90 DEG DURING ENCOUNTER.

***** RAE-B *****

SPACECRAFT COMMON NAME- RAE-B

ALTERNATE NAMES- RADIO ASTRONOMY EXPLORER, PL-693B

EXPLORER 49, 06686

6686

NSSDC ID- 73-039A

LAST REPORTED STATE- LAUNCHED AND OPERATING NORMALLY AT THE STANDARD DATA ACQUISITION RATE SINCE 06/10/73.

LAUNCH DATE- 06/10/73 SPACECRAFT WEIGHT- 328. KG

LAUNCH SITE- CAPE CANAVERAL, UNITED STATES

LAUNCH VEHICLE- LT DELTA

SPONSORING COUNTRY/AGENCY

UNITED STATES NASA-OSS

INITIAL ORBIT PARAMETERS

ORBIT TYPE- SELENOCENTRIC

EPOCH DATE- 06/21/73

ORBIT PERIOD- 221.17 MIN

INCLINATION- 55.7 DEG

PERIAPSIS- 1052.98 KM ALT

APOAPSIS- 1063.84 KM ALT

RECENT ORBIT PARAMETERS

ORBIT TYPE- SELENOCENTRIC

EPOCH DATE- 02/24/75

ORBIT PERIOD- 221.9 MIN

INCLINATION- 67.1 DEG

PERIAPSIS- 1044. KM ALT

APOAPSIS- 1085. KM ALT

SPACECRAFT PERSONNEL (PM=PROJECT MANAGER, PS=PROJECT SCIENTIST, MG=PROGRAM MANAGER, SC=PROGRAM SCIENTIST)

PM - J.T. SHEANASA-GSFC

GREENBELT, MD

PS - R.G. STONENASA-GSFC

GREENBELT, MD

MG - J.R. HOLTZNASA HEADQUARTERS

WASHINGTON, DC

SC - N.G. ROMANNASA HEADQUARTERS

WASHINGTON, DC

SPACECRAFT BRIEF DESCRIPTION

THE RAE-B SPACECRAFT MEASURED WITH DIRECTIVITY THE INTENSITY OF CELESTIAL RADIO SOURCES AS A FUNCTION OF TIME, DIRECTION, AND FREQUENCY (0.03 TO 13 MHZ). THREE RAPID-BURST RECEIVERS, TWO RYLE-VONBERG RECEIVERS, AND AN IMPEDANCE PROBE CONNECTED TO TWO 229-M LONG 'V' ANTENNAS AND A 37-M LONG DIPOLE ANTENNA WERE USED. THE SPACECRAFT WAS IN A LUNAR ORBIT ENABLING LUNAR OCCULTATIONS TO BE USED TO DETERMINE CELESTIAL SOURCE POSITIONS FROM A LOCATION FAR REMOVED FROM THE TERRESTRIAL NOISE BACKGROUND.

----- RAE-B, STONE -----

EXPERIMENT NAME- RAPID-BURST RECEIVERS

NSSDC ID- 73-039A-02

LAST REPORTED STATE- LAUNCHED AND OPERATING NORMALLY AT A SUBSTANDARD DATA ACQUISITION RATE SINCE 06/10/73.

OSS DIVISION- PHYSICS AND ASTRONOMY PROGRAMS

DISCIPLINE(S)- ASTRONOMY

PLANETARY ATMOSPHERES

SOLAR PHYSICS

EXPERIMENT PERSONNEL (PI=PRINCIPAL INVESTIGATOR, TL=TEAM LEADER, DI=OTHER INVESTIGATOR, TM=TEAM MEMBER)

PI - R.G. STONENASA-GSFC

GREENBELT, MD

DI - J.K. ALEXANDER, JR.NASA-GSFC

GREENBELT, MD

DI - J. FAINBERGNASA-GSFC

GREENBELT, MD

DI - J.F. CLARKNASA-GSFC

GREENBELT, MD

DI - H. MALITSONNASA-GSFC

GREENBELT, MD

EXPERIMENT BRIEF DESCRIPTION

A 32-CHANNEL STEP FREQUENCY RADIOMETER WAS CONNECTED TO EACH ANTENNA (2 'V' ANTENNAE, 229-M LONG, 1 DIPOLE, 35-M LONG) AND MEASURED THE AMPLITUDES, RATES OF CHANGE OF FREQUENCY, AND DECAY TIMES OF SOLAR BURSTS AND OTHER RAPIDLY VARYING NOISE IN THE 0.025 TO 13 MHZ BAND. OPERATING IN TWO SENSITIVITY MODES, THESE RECEIVERS MEASURED SIGNALS UP TO 60 DEG ABOVE THE COSMIC BACKGROUND LEVEL. THE 32 CHANNELS WERE SAMPLED EVERY 7.68 SEC ON THE 'V' ANTENNAE AND EVERY 3.84 SEC ON THE DIPOLE ANTENNAE.

----- RAE-B, STONE -----

EXPERIMENT NAME- CAPACITANCE FREQUE

NSSDC ID- 73-036A-02

LAST REPORTED STATE- LAUNCHED AND OPERATING NORMALLY
AT THE STANDARD DATA ACQUISITION RATE SINCE 06/10/73.

OSS DIVISION- PHYSICS AND ASTRONOMY PROGRAMS
DISCIPLINE(S)- ASTRONOMY ICNCPH. + RADIC PHYSIC

EXPERIMENT PERSONNEL (PI=PRINCIPAL INVESTIGATOR, TL=TEAM LEADER
OI=OTHER INVESTIGATOR, TM=TEAM MEMBER)

PI - R.G. STONE NASA-GSFC
OI - J.L. DONLEY GREENBELT, MD
OI - J.E. GUTHRIE NASA-GSFC
OI - J.A. KANE NASA-GSFC
OI - R.C. SOMERLOCH NASA-GSFC
GREENBELT, MD

EXPERIMENT BRIEF DESCRIPTION

THE ANTENNA AND SPACECRAFT FUNCTIONED AS TWO CAPACITOR PLATES WITH THE AMBIENT PLASMA ACTING AS THE DIELECTRIC. FREQUENCY SHIFTS IN TWO COUPLED OSCILLATORS CONNECTED TO THE ANTENNA INDICATED CHANGES IN ANTENNA CAPACITANCE CAUSED BY VARIATIONS IN THE AMBIENT ELECTRON DENSITY.

***** SOLAR MAXIMUM MISSION *****

SPACECRAFT COMMON NAME- SOLAR MAXIMUM MISSION

ALTERNATE NAMES- SMM

NSSDC ID- SMM

LAST REPORTED STATE- APPROVED CONDITIONALLY

LAUNCH DATE- MID 1976 SPACECRAFT WEIGHT- 1300 KG
LAUNCH SITE- CAPE CANAVERAL, UNITED STATES
LAUNCH VEHICLE- DELTA

SPONSORING COUNTRY/AGENCY
UNITED STATES NASA-CSS

PLANNED ORBIT PARAMETERS

ORBIT TYPE- GEOCENTRIC
ORBIT PERIOD- 50. MIN INCLINATION- 28. DEG
PERIAPSIS- 6828. KM ALT APOAPSIS- 6828. KM ALT

EXPERIMENT PERSONNEL (PM=PROJECT MANAGER, PS=PROJECT SCIENTIST,
MC=PROGRAM MANAGER, SC=PROGRAM SCIENTIST)

PS - K.J. FROST NASA-GSFC
GREENBELT, MD
MC - M.E. MCDONALD NASA HEADQUARTERS
WASHINGTON, DC
SC - S.D. JORDAN NASA-GSFC
GREENBELT, MD

SPACECRAFT BRIEF DESCRIPTION

THE SOLAR MAXIMUM MISSION WILL BE DEDICATED TO COORDINATED OBSERVATIONS OF SPECIFIC SOLAR ACTIVITY AND SOLAR FLARE PROBLEMS. THE SPACECRAFT WILL BE ORIENTED TOWARDS THE SUN DURING THE DAYLIGHT PORTION OF THE ORBIT. THE SPACECRAFT ITSELF WILL NOT RASTER OVER THE SOLAR DISC, ALTHOUGH INDIVIDUAL INSTRUMENTS WILL HAVE THIS CAPABILITY. THE SMM SPACECRAFT WILL BE DESIGNED SO THAT IT CAN BE RETRIEVED BY AN EARLY SHUTTLE FLIGHT, RETURNED TO EARTH, REFURBISHED AND FITTED WITH AN UPDATED PAYLOAD, AND RETURNED TO ORBIT FOR ANOTHER SOLAR ORIENTED MISSION. AT PRESENT (MARCH, 1975) THE SMM IS IN A DEFINITION-STUDY PHASE. THIRTEEN EXPERIMENTS HAVE BEEN INCLUDED IN THIS STUDY PHASE, BUT IT IS ANTICIPATED THAT ONLY SIX TO EIGHT WILL MAKE THE FINAL PAYLOAD.

----- SOLAR MAXIMUM MISSION, ACTON -----

EXPERIMENT NAME- SCFT X-RAY SPECTROMETER

NSSDC ID- SMM -07

LAST REPORTED STATE- APPROVED CONDITIONALLY

OSS DIVISION- PHYSICS AND ASTRONOMY PROGRAMS
DISCIPLINE(S)- SOLAR PHYSICS

EXPERIMENT PERSONNEL (PI=PRINCIPAL INVESTIGATOR, TL=TEAM LEADER
OI=OTHER INVESTIGATOR, TM=TEAM MEMBER)

PI - L. ACTON LOCKHEED PALO ALTO
PALO ALTO, CA
OI - R.C. CATURA LOCKHEED PALO ALTO
PALO ALTO, CA
OI - C. WOLFSON LOCKHEED PALO ALTO
PALO ALTO, CA

PI - B.B. JONES CULHAM LAB
ABINGDON, ENGLAND
OI - C. JORDAN CULHAM LAB
ABINGDON, ENGLAND
OI - B. FAWCETT CULHAM LAB
ABINGDON, ENGLAND
OI - A. GABRIEL CULHAM LAB
ABINGDON, ENGLAND
OI - R.L.F. BOYD U COLLEGE LONDON
LONDON, ENGLAND
PI - C. RAPLEY U COLLEGE LONDON
LONDON, ENGLAND
PI - J.L. CULHANE U COLLEGE LONDON
LONDON, ENGLAND
PI - J. PARKINSON U COLLEGE LONDON
LONDON, ENGLAND

EXPERIMENT BRIEF DESCRIPTION

THE INSTRUMENT WILL CONSIST OF TWO SETS OF 7 FLAT CRYSTAL AND 8 BENT CRYSTAL SPECTROMETERS (FCS AND BCS, RESPECTIVELY). THE FCS SYSTEM WILL PROVIDE A RASTERING CAPABILITY UP TO A 7 X 7 ARC-MIN FOV IN 10 X 10 ARC-SEC ELEMENTS AT 0.25 SEC PER ELEMENT IN 5 ARC-SEC STEPS. THE BCS SYSTEM OBTAINS HIGH-SPECTRAL AND TIME-RESOLVED SPECTRA (0.05 A AND 1.0 SEC, TYPICALLY) OVER A 6 X 6 ARC-MIN FOV. BOTH SYSTEMS WILL BE OPTIMIZED TO PROVIDE 7 SIMULTANEOUS SPECTROHELIOPHOTOGRAMS (SPECTRA) SPANNING THE 1.38-19.48 A WAVELENGTH RANGE. THESE, IN TURN, WILL INCLUDE MANY STRONG LINES COVERING A TEMPERATURE RANGE OF ABOUT 1.6E TO 1.6E K FOR ACTIVE REGION AND FLARE STUDIES. THE FCS MODE OF OPERATION IS INTENDED FOR STUDIES OF CORONAL ACTIVE REGIONS BEFORE AND AFTER FLARES, TO DETERMINE WHAT CHANGES IN THE PLASMA TEMPERATURES AND DENSITIES ARE ASSOCIATED WITH THE BUILD-UP TO AND RELAXATION FROM THE FLARE. THE BCS MODE WILL PERMIT DETAILED STUDIES OF THE RAPID PHYSICAL CHANGES IN THE PLASMA DURING FLARES.

----- SOLAR MAXIMUM MISSION, BONNET -----

EXPERIMENT NAME- HIGH RESOLUTION UV SPECTROMETER

NSSDC ID- SMM -03

LAST REPORTED STATE- APPROVED CONDITIONALLY

OSS DIVISION- PHYSICS AND ASTRONOMY PROGRAMS
DISCIPLINE(S)- SOLAR PHYSICS

EXPERIMENT PERSONNEL (PI=PRINCIPAL INVESTIGATOR, TL=TEAM LEADER
OI=OTHER INVESTIGATOR, TM=TEAM MEMBER)

PI - R. BONNET CNRS-LPSP
PARIS, FRANCE
OI - J. CHARRA CNRS-LPSP
PARIS, FRANCE
OI - J. LEIBACKER CNRS-LPSP
PARIS, FRANCE
OI - P. LEMAIRE CNRS-LPSP
PARIS, FRANCE
CI - M. MALINOVSKY CNRS-LPSP
PARIS, FRANCE
OI - D. SAMAIN CNRS-LPSP
PARIS, FRANCE
CI - J. STENflo U OF LUND
LUND, SWEDEN

EXPERIMENT BRIEF DESCRIPTION

THE OBJECTIVE OF THIS EXPERIMENT WILL BE TO STUDY SPECTRAL LINES SPANNING THE ENTIRE CHROMOSPHERE AND LOWER TRANSITION REGION. THE INSTRUMENT WILL BE A MULTICHANNEL ULTRAVIOLET SPECTROMETER. IT WILL EMPLOY A CASSEGRAIN TELESCOPE TO BOTH INTERNALLY RASTER AND PROVIDE LIGHT TO A PLANE GRATING THAT, IN TURN, REFLECTS THE PHOTONS SIMULTANEOUSLY INTO SIX DETECTORS -- LY ALPHA, LY B, MG II H AND K, CAII K AND 2000 A. HALF-WAVE PLATES WILL PERMIT CIRCULAR POLARIZATION STUDIES, USING THE LY AND MG II H AND K CHANNELS. STEPPING THE GRATING WILL PROVIDE SPECTRAL RESOLUTION OF 0.01-0.04 A WITH TIME RESOLUTION OF ABOUT 10 SEC FOR A FULL SPECTRAL LINE SCAN, LESS FOR A PARTIAL (CORE) SCAN, AND SPATIAL RESOLUTION OF 1 X 1 ARC-SEC. THE SPATIAL RESOLUTION, FOV FOR RASTERING, AND SPECTRAL RANGE WILL BE VARIABLE, THE LATTER DEPENDING ON THE DIFFRACTION ORDER. A 450 A SCAN IS PROVIDED BY THE SIX DETECTOR SYSTEM, THROUGH 14TH ORDER IN LY B.

----- SOLAR MAXIMUM MISSION, CHUCC -----

EXPERIMENT NAME- BROAD RANGE GAMMA-RAY EXPERIMENT

NSSDC ID- SMM -13

LAST REPORTED STATE- APPROVED CONDITIONALLY

OSS DIVISION- PHYSICS AND ASTRONOMY PROGRAMS
DISCIPLINE(S)- SOLAR PHYSICS

EXPERIMENT PERSONNEL (PI=PRINCIPAL INVESTIGATOR, TL=TEAM LEADER
OI=OTHER INVESTIGATOR, TM=TEAM MEMBER)

PI - E. CHUCC U OF NEW HAMPSHIRE
DURHAM, NH
OI - D. FORREST U OF NEW HAMPSHIRE
DURHAM, NH
OI - K. PINKAU MPI
MUNICH, FED REP OF GERMANY
OI - C. REPPIN MPI
MUNICH, FED REP OF GERMANY

PI - A. JACOBSON *****NASA-JPL
PASADENA, CA

EXPERIMENT BRIEF DESCRIPTION

THE OBJECTIVE OF THIS EXPERIMENT IS TO OBSERVE SOLAR FLARE RELATED GAMMA RAY LINES AND ASSOCIATED CONTINUUM RADIATION. THE INSTRUMENT WILL CONSIST OF A THREE ELEMENT DETECTOR SYSTEM -- (1) A 0.3-9 MEV SYSTEM USING SIX 7.6 X 7.6 CM NAI SCINTILLATOR UNITS CONTINUOUSLY GAIN-STABILIZED TO A COMMON PRESET GAIN SO THE SUMMED OUTPUT OF ALL SIX DETECTORS IS IDENTICAL TO A SINGLE LARGE DETECTOR. THE ENERGY RESOLUTION IS 7.5 PERCENT AT 0.662 MEV WITH 20 SEC TIME RESOLUTION (1.0 SEC FOR SELECTED LINES). (2) A COOLED GE DIODE OF 60 CC, COVERING 0.3-5.2 MEV WITH RESOLUTION OF 2.5 KEV FWHM AND TIME RESOLUTION OF 0.5 SEC. (3) A HIGH-ENERGY, 10-160 MEV SYSTEM USING THE SIX NAI DETECTORS AND A CSI BACK-DETECTOR OPERATING TOGETHER. RESOLUTION IS E/E 1.0 WITH 1 SEC TIME RESOLUTION.

----- SOLAR MAXIMUM MISSION. DE JAGER -----
EXPERIMENT NAME- HARD X-RAY IMAGING SPECTROMETER

NSSDC ID- SMM -08

LAST REPORTED STATE- APPROVED CONDITIONALLY

OSS DIVISION- PHYSICS AND ASTRONOMY PROGRAMS
DISCIPLINE(S)- SOLAR PHYSICS

EXPERIMENT PERSONNEL (PI=PRINCIPAL INVESTIGATOR, TL=TEAM LEADER
DI=OTHER INVESTIGATOR, TM=TEAM MEMBER)
PI - C. DE JAGER *****SPACE RESEARCH LAB
UTRECHT, NETHERLANDS
OI - H. VAN BEEK *****SPACE RESEARCH LAB
UTRECHT, NETHERLANDS
OI - L. DE FEITER *****SPACE RESEARCH LAB
UTRECHT, NETHERLANDS

EXPERIMENT BRIEF DESCRIPTION

THE PRIME OBJECTIVE OF THIS EXPERIMENT WILL BE TO STUDY THE SPECTRAL, AND SPATIAL EVOLUTION OF HARD X-RAY FLARES. THE INSTRUMENT WILL CONSIST OF AN IMAGING COLLIMATOR, A POSITION SENSITIVE DETECTOR SYSTEM, AND ACCOMPANYING ELECTRONICS. THE MECHANICAL COLLIMATOR FORMS A TWO-DIMENSIONAL 1024 IMAGE ELEMENT ARRAY WITH A TOTAL FOV OF 4.3 X 4.3 ARC-MIN CORRESPONDING TO A SINGLE IMAGE ELEMENT FOV OF 8 X 8 ARC-SEC. THE DETECTOR CONSISTS OF 1024 SEPARATE MINI-PROPORTIONAL COUNTERS. PULSE HEIGHT ANALYSIS PERMITS MEASUREMENTS IN FIVE ENERGY BANDS SIMULTANEOUSLY. THESE ARE CHOSEN IN THE RANGE 3.5-20 KEV, WITH ENERGY RESOLUTION OF 19 PERCENT AT 6 KEV AND TIME RESOLUTION OF 2 SEC.

----- SOLAR MAXIMUM MISSION. FROST -----

EXPERIMENT NAME- HARD X-RAY SPECTROMETER

NSSDC ID- SMM -10

LAST REPORTED STATE- APPROVED CONDITIONALLY

OSS DIVISION- PHYSICS AND ASTRONOMY PROGRAMS
DISCIPLINE(S)- SOLAR PHYSICS

EXPERIMENT PERSONNEL (PI=PRINCIPAL INVESTIGATOR, TL=TEAM LEADER
DI=OTHER INVESTIGATOR, TM=TEAM MEMBER)
PI - K. FROST *****NASA-GSFC
GREENBELT, MD
OI - B. DENNIS *****NASA-GSFC
GREENBELT, MD
OI - L. DRWIG *****NASA-GSFC
GREENBELT, MD

EXPERIMENT BRIEF DESCRIPTION

THE OBJECTIVE OF THIS EXPERIMENT WILL BE TO MEASURE, WITH VERY HIGH TEMPORAL RESOLUTION, THE SPECTRUM OF HARD SOLAR X-RAY FLARES. THE INSTRUMENT WILL BE AN UPDATED VERSION OF THE SUCCESSFUL OSO-5 HARD X-RAY SPECTROMETER. IT WILL USE A FLIGHT-SPARATE DETECTOR WITH NEW PHOTOMULTIPLIER TUBES AND ELECTRONICS. A 16 CHANNEL PULSE HEIGHT SPECTRUM WILL BE OBTAINED EVERY 0.1 SEC OVER THE 20-300 KEV RANGE. THE INSTRUMENT WILL VIEW THE FULL SUN.

----- SOLAR MAXIMUM MISSION. IMHOF -----

EXPERIMENT NAME- HIGH RESOLUTION GAMMA-RAY SCLIC STATE
DETECTOR

NSSDC ID- SMM -11

LAST REPORTED STATE- APPROVED CONDITIONALLY

OSS DIVISION- PHYSICS AND ASTRONOMY PROGRAMS
DISCIPLINE(S)- SOLAR PHYSICS

EXPERIMENT PERSONNEL (PI=PRINCIPAL INVESTIGATOR, TL=TEAM LEADER
DI=OTHER INVESTIGATOR, TM=TEAM MEMBER)
PI - W. IMHOF *****LOCKHEED PALO ALTO
PALO ALTO, CA
OI - G. NAKANO *****LOCKHEED PALO ALTO
PALO ALTO, CA
OI - J. REAGAN *****LOCKHEED PALO ALTO
PALO ALTO, CA

EXPERIMENT BRIEF DESCRIPTION

THE INSTRUMENT WILL CONSIST OF A PASSIVELY COOLED SYSTEM OF THREE 80 CC GERMANIUM DETECTORS, COVERING THE 0.1-4.5 MEV RANGE WITH A RESOLUTION OF 2 KEV FWHM AND TIME RESOLUTION OF 1 SEC FOR A DATA RATE OF 325 BPS. FOR A HIGHER DATA RATE, HIGHER TIME RESOLUTION, UP TO 0.04 SEC, COULD BE ACHIEVED. SCIENTIFIC OBJECTIVES WILL INCLUDE A DETERMINATION OF FLARE PLASMA TEMPERATURES FROM THERMAL BROADENING OF ELECTRON-POSITION ANNIHILATION LINE AT 511 KEV, A POSITIVE IDENTIFICATION OF THE HYDROGEN NEUTRON CAPTURE LINE AT 2.23 MEV, AND A SEARCH FOR SEVERAL NEW NUCLEAR DEEXCITATION LINES IN THE ENERGY RANGE COVERED AND PREDICTED BY THEORETICAL WORK.

----- SOLAR MAXIMUM MISSION. KOOMEN -----

EXPERIMENT NAME- WHITE LIGHT CORONAGRAPH

NSSDC ID- SMM -02

LAST REPORTED STATE- APPROVED CONDITIONALLY

OSS DIVISION- PHYSICS AND ASTRONOMY PROGRAMS

DISCIPLINE(S)- SOLAR PHYSICS

EXPERIMENT PERSONNEL (PI=PRINCIPAL INVESTIGATOR, TL=TEAM LEADER
DI=OTHER INVESTIGATOR, TM=TEAM MEMBER)
PI - M. KOOMEN *****US NAVAL RESEARCH LAB
WASHINGTON, DC
CI - J. BOHLIN *****US NAVAL RESEARCH LAB
WASHINGTON, DC
OI - R. HOWARD *****US NAVAL RESEARCH LAB
WASHINGTON, DC
OI - D. MICHELS *****US NAVAL RESEARCH LAB
WASHINGTON, DC

EXPERIMENT BRIEF DESCRIPTION

THE OBJECTIVES OF THIS EXPERIMENT WILL INCLUDE STUDY OF SOLAR ERUPTIONS AND SHOCK WAVES AS THEY PROPAGATE THROUGH THE OUTER CORONA, AND STUDY OF THE SOLAR CORONA ITSELF. THE INSTRUMENT WILL BE A WHITE LIGHT CORONAGRAPH USING A SEC VIDICON PHOTOCATHODE. IT WILL PROVIDE A FOV RANGING FROM 2 TO 10 SOLAR RADII, WITH A 512 LINE RASTER WHICH COVERS A 320 ARC-MIN TOTAL FIELD. READOUT AT 765 BPS WILL YIELD 1/2 OF A FULL RASTER EVERY 20 MIN, WITH A FASTER RATE POSSIBLE BY INCREASING THE DATA RATE. TWO POLARIZERS WILL BE USED TO DETERMINE PERCENTAGE POLARIZATION IN THE FOV.

----- SOLAR MAXIMUM MISSION. KURFESS -----

EXPERIMENT NAME- BROAD RANGE GAMMA-RAY SPECTROMETER

NSSDC ID- SMM -12

LAST REPORTED STATE- APPROVED CONDITIONALLY

OSS DIVISION- PHYSICS AND ASTRONOMY PROGRAMS

DISCIPLINE(S)- SOLAR PHYSICS

EXPERIMENT PERSONNEL (PI=PRINCIPAL INVESTIGATOR, TL=TEAM LEADER
DI=OTHER INVESTIGATOR, TM=TEAM MEMBER)
PI - J. KURFESS *****US NAVAL RESEARCH LAB
WASHINGTON, DC
OI - W.N. JOHNSON *****US NAVAL RESEARCH LAB
WASHINGTON, DC
OI - R. KINZER *****US NAVAL RESEARCH LAB
WASHINGTON, DC
OI - G. SHAU *****US NAVAL RESEARCH LAB
WASHINGTON, DC

EXPERIMENT BRIEF DESCRIPTION

THE OBJECTIVE OF THIS EXPERIMENT WILL BE TO OBSERVE SOLAR FLARE RELATED GAMMA RAY LINES AND ASSOCIATED CONTINUUM RADIATION. THE DETECTOR CONSISTS OF A SINGLE 30.5 X 12.7 CM NAI CRYSTAL MOUNTED IN A 30.5 X 5.1 CM CSI SHIELD-LIGHT PIPE IN A PHOSWICH CONFIGURATION AND SURROUNDED BY A 5.1 CM THICK CSI ANNULUS FOR ADDITIONAL SHIELDING. PULSE-SHAPE DISCRIMINATION IS USED TO DIFFERENTIATE BETWEEN EVENTS OCCURRING ONLY IN NAI, ONLY IN CSI, OR EVENTS PRODUCING ENERGY LOSS IN EACH CRYSTAL. TWO MAJOR ENERGY REGIMES WILL BE STUDIED. THE 0.25-10 MEV RANGE PROVIDES AN ENERGY RESOLUTION OF 8 PERCENT FWHM AT 0.661 MEV AND 3.2 PERCENT AT 4.4 MEV. THE 20-150 MEV RANGE PROVIDES A 15 MEV RESOLUTION. TIME RESOLUTION IS 8 SEC FOR NORMAL OPERATION AND 0.1 SEC IN THE FLARE MODE.

----- SOLAR MAXIMUM MISSION. MACQUEEN -----

EXPERIMENT NAME- WHITE LIGHT CORONAGRAPH

NSSDC ID- SMM -01

LAST REPORTED STATE- APPROVED CONDITIONALLY

OSS DIVISION- PHYSICS AND ASTRONOMY PROGRAMS

DISCIPLINE(S)- SOLAR PHYSICS

EXPERIMENT PERSONNEL (PI=PRINCIPAL INVESTIGATOR, TL=TEAM LEADER
DI=OTHER INVESTIGATOR, TM=TEAM MEMBER)
PI - R. MACQUEEN *****HIGH ALTITUDE OBS
BOULDER, CO
OI - M. ALTSCHULER *****HIGH ALTITUDE OBS
BOULDER, CO
OI - H. SCHMIDT *****HIGH ALTITUDE OBS
BOULDER, CO

OI - K. SHERIDAN HIGH ALTITUDE OBS
 BOULDER, CO
 OI - R. KOPP HIGH ALTITUDE OBS
 BOULDER, CO
 OI - C. QUERFELD HIGH ALTITUDE OBS
 BOULDER, CO
 OI - L. HOUSE HIGH ALTITUDE OBS
 BOULDER, CO
 OI - G. CULK HIGH ALTITUDE OBS
 BOULDER, CO
 OI - R. HANSEN HIGH ALTITUDE OBS
 BOULDER, CO
 OI - W. WAGE HIGH ALTITUDE OBS
 BOULDER, CO

EXPERIMENT BRIEF DESCRIPTION

THE OBJECTIVE OF THIS EXPERIMENT WILL BE TO STUDY SOLAR ERUPTIONS AND SHOCK WAVES AS THEY PROPAGATE THROUGH THE CUTER CORONA, AND TO STUDY THE OUTER SOLAR CORONA ITSELF. THE INSTRUMENT IS A WHITE-LIGHT CORNAGRAPH WHICH WILL PROVIDE A FOV RANGING FROM 1.5 TO 10 SOLAR RADII. IT WILL DISCRIMINATE VARIOUS IMPORTANT EAND-PASS RANGES OF THE VISIBLE SPECTRUM FROM 4000-7000 Å. BOTH THE TRANSIENT AND THE FULL SYNOPTIC OBSERVING PROGRAMS FRCFOSEC WOULD REQUIRE A 1584 BPS TELEMETRY RATE, BUT A LESSER AND STILL USEFUL RATE IS POSSIBLE. A STOKES POLARIMETER WILL PERMIT DETAILED CUTER CORONAL MAGNETIC FIELD STUDIES.

----- SOLAR MAXIMUM MISSION, NEUPERT -----

EXPERIMENT NAME- XUV SPECTROHELIOMETER

NSSDC ID- SMM -06

LAST REPORTED STATE- APPROVED CONDITIONALLY

OSS DIVISION- PHYSICS AND ASTRONOMY PROGRAMS
 DISCIPLINE(S)- SOLAR PHYSICS

EXPERIMENT PERSONNEL (PI=PRINCIPAL INVESTIGATOR, TL=TEAM LEADER
 DI=OTHER INVESTIGATOR, TM=TEAM MEMBER)
 PI - W. NEUPERT NASA-GSFC
 GREENBELT, MD
 OI - R. CHAPMAN NASA-GSFC
 GREENBELT, MD
 OI - Y. NAKAGAWA HIGH ALTITUDE OBS
 BOULDER, CO
 OI - R. THOMAS NASA-GSFC
 GREENBELT, MD
 OI - D. RUST AS&E, INC
 CAMBRIDGE, MA

EXPERIMENT BRIEF DESCRIPTION

THE OBJECTIVE WILL BE TO ACQUIRE SPECTROHELIOPHOTOGRAPHS AND SPECTRA FORMED IN THE LOW CORONA, IN ACTIVE REGIONS, AND IN FLARES. THE INSTRUMENT WILL BE A GRAZING INCIDENCE TELESCOPE AND SPECTROMETER, WHICH FRCVIDES SPATIAL RESOLUTION OF 5 X 5 ARC-SEC, SPECTRAL RESOLUTION OF 0.5 Å AND TIME RESOLUTION OF 20 SEC FOR A FCV RASTER SCAN OF 1.5 X 1.5 ARC-MIN IN THE NORMAL MODE. NUMEROUS RASTER OPTIONS FROM A 1.5 X 1.5 ARC-MIN TO A 60 X 60 ARC-MIN FCV ARE PROVIDED. WITH VARIABLE SPATIAL RESOLUTION, INDIVIDUAL SPECTRA AS WELL AS SPECTROHELIOPHOTOGRAPHS CAN BE OBTAINED IN THREE LINES SIMULTANEOUSLY IN THE RANGE 90-640 Å.

----- SOLAR MAXIMUM MISSION, NOVICK -----

EXPERIMENT NAME- HARX X-RAY POLARIMETER

NSSDC ID- SMM -09

LAST REPORTED STATE- APPROVED CONDITIONALLY

OSS DIVISION- PHYSICS AND ASTRONOMY PROGRAMS
 DISCIPLINE(S)- SOLAR PHYSICS

EXPERIMENT PERSONNEL (PI=PRINCIPAL INVESTIGATOR, TL=TEAM LEADER
 DI=OTHER INVESTIGATOR, TM=TEAM MEMBER)
 PI - R. NOVICK COLUMBIA U
 NEW YORK, NY
 OI - H. HELAVIA COLUMBIA U
 NEW YORK, NY
 OI - M. WEISSKOPF COLUMBIA U
 NEW YORK, NY
 OI - R. WOLFF COLUMBIA U
 NEW YORK, NY
 OI - L. WALTER COLUMBIA U
 NEW YORK, NY

EXPERIMENT BRIEF DESCRIPTION

THIS EXPERIMENT IS INTENDED TO MEASURE THE POLARIZATION PROPERTIES OF HARX X-RAY FLARES. THE INSTRUMENT CONSISTS OF A TWO-AXIALLY-SYMMETRIC LITHIUM CCMFTON SCATTERING TARGETS SURROUNDED, RESPECTIVELY, BY TWO CYLINDRICAL PROPORTIONAL COUNTERS. THE INNER COUNTER HAS A BERYLLIUM WINDOW ON ITS INNER SURFACE WITH ADEQUATE TRANSMISSION TO ALLOW POLARIZATION MEASUREMENTS OF DOWN TO 5 KEV X-RAYS. THE OUTER WINDOW ON THE INNER AND THE INNER WINDOW ON THE OUTER COUNTER ARE ALUMINUM OF 12 KEV TRANSMISSION THICKNESS, ENOUGH TO ELIMINATE A PULSE PILE-UP PROBLEM. THE FULL RANGE OF THE INSTRUMENT IS 5-100 KEV WITH ENERGY RESOLUTION OF 25 PERCENT AT 5 KEV AND 10 PERCENT AT 100 KEV. FULL SUN VIEWING (1 DEGREE FCV) WITH TEMPORAL RESOLUTION IN THE RANGE 10-0.1 SEC DEPENDING ON OPERATING MODE IS PROVIDED.

----- SOLAR MAXIMUM MISSION, REEVES -----

EXPERIMENT NAME- XUV SPECTROHELIOMETER

NSSDC ID- SMM -05

LAST REPORTED STATE- APPROVED CONDITIONALLY

OSS DIVISION- PHYSICS AND ASTRONOMY PROGRAMS
 DISCIPLINE(S)- SOLAR PHYSICS

EXPERIMENT PERSONNEL (PI=PRINCIPAL INVESTIGATOR, TL=TEAM LEADER
 DI=OTHER INVESTIGATOR, TM=TEAM MEMBER)

PI - E. REEVES HARVARD COLLEGE OBS
 CAMBRIDGE, MA
 OI - R. NOYES HARVARD COLLEGE OBS
 CAMBRIDGE, MA
 CI - J.G. TIMOTHY HARVARD COLLEGE OBS
 CAMBRIDGE, MA
 DI - G. WITTBROE HARVARD COLLEGE OBS
 CAMBRIDGE, MA

EXPERIMENT BRIEF DESCRIPTION

THE OBJECTIVE WILL BE TO ACQUIRE SPECTROHELIOPHOTOGRAPHS AND SPECTRA FORMED IN THE LOW CORONA, IN ACTIVE REGIONS, AND IN FLARES. THE INSTRUMENT WILL CONSIST OF A GRAZING INCIDENCE TELESCOPE AND A GRAZING INCIDENCE SPECTROMETER, WITH A DETECTOR SYSTEM CONSISTING OF 8 CHANNEL ELECTRON MULTIPLIERS WHICH RECEIVE LIGHT FROM THE GRATING THROUGH TWO MOVEABLE EXIT SLITS. THE DETECTOR ARRAY CAN BE MOVED ON A RONLAND CIRCLE INTO THREE PRIMARY POSITIONS, SIMULTANEOUSLY MONITORING 8 KNOWN XUV LINES AND SEVERAL SECONDARY POSITIONS MONITORING A LESSER NUMBER. PRIMARY SPECTRAL RANGE IS 40-630 Å. AT SPATIAL RESOLUTION 4 X 4 ARC-SEC AND SPECTRAL RESOLUTION 0.1 Å, A 1 X 1 ARC-MIN FOV RASTER SCAN WILL TAKE 18 SEC IN THE NORMAL MODE. INDIVIDUAL SPECTRA AT A POINT CAN ALSO BE TAKEN.

----- SOLAR MAXIMUM MISSION, TANDBERG-HANSEN -----

EXPERIMENT NAME- HIGH RESOLUTION UV SPECTROMETER

NSSDC ID- SMM -04

LAST REPORTED STATE- APPROVED CONDITIONALLY

OSS DIVISION- PHYSICS AND ASTRONOMY PROGRAMS
 DISCIPLINE(S)- SOLAR PHYSICS

EXPERIMENT PERSONNEL (PI=PRINCIPAL INVESTIGATOR, TL=TEAM LEADER
 DI=OTHER INVESTIGATOR, TM=TEAM MEMBER)

PI - E. TANDBERG-HANSEN NASA-HSF
 HUNTSVILLE, AL
 OI - R.G. ATHAY HIGH ALTITUDE OBS
 BOULDER, CO
 OI - C. HYDER NASA-GSFC
 GREENBELT, MD
 OI - E. BRUNER U OF COLORADO
 BOULDER, CO
 CI - R. CHAPMAN NASA-GSFC
 GREENBELT, MD
 CI - J. BECKERS SACRAMENTO PEAK OBS
 SUNSPOT, NM
 OI - J. BRANDT NASA-GSFC
 GREENBELT, MD

EXPERIMENT BRIEF DESCRIPTION

THE OBJECTIVE OF THIS EXPERIMENT WILL BE TO OBSERVE SPECTRAL LINES SPANNING MAINLY THE UPPER CHROMOSPHERE AND TRANSITION REGION. THE INSTRUMENT WILL BE A CASSEGRAIN TELESCOPE TO BOTH INTERNALLY RASTER AND FOCUS LIGHT INTO AN EBERT SPECTROMETER. AN ARRAY OF PHOTOMULTIPLIERS WILL SIMULTANEOUSLY OBTAIN 3 SPECTRAL LINES FROM NUMEROUS SETS IN THE WAVELENGTH RANGE FROM 1100 Å UP TO SOME UPPER LIMIT BETWEEN 2000 AND ABOUT 2500 Å. A POLARIZATION FILTER WHEEL, LOCATED BEHIND THE ENTRANCE SLIT OF THE SPECTROMETER, WILL PROVIDE HALF AND GREATER WAVE PLATES TO SUPPORT MAGNETIC FIELD STUDIES. STEPPING THE GRATING WILL PROVIDE SPECTRAL SCAN. OBSERVATIONS OF 3 X 3 ARC-SEC SPATIAL ELEMENTS AT 0.02-0.03 Å WITH TIME RESOLUTION OF 0.16 SEC FOR A SPECTRAL LINE SCAN ARE PROVIDED, WITH RASTER MODES UP TO 30 X 30 ARC-SEC PLUS ONE OF 15 X 1000 ARC-SEC. MAGNETIC FIELDS OF 100 GAMMA MAY BE MEASUREABLE.

***** SPACELAB-SOLAR *****

SPACECRAFT COMMON NAME- SPACELAB-SOLAR

ALTERNATE NAMES-

NSSDC ID- SPLBSOL

LAST REPORTED STATE- A PROPOSED MISSION

LAUNCH DATE- N/A

SPACECRAFT WEIGHT-

KG

LAUNCH SITE-

LAUNCH VEHICLE-

SPONSORING COUNTRY/AGENCY

UNITED STATES NASA-OSS

PLANNED ORBIT PARAMETERS

ORBIT TYPE-	INCLINATION-	DEG
ORBIT PERIOD-	APOGEE-	
PERIAPSIS-		

SPACECRAFT PERSONNEL (PM=PROJECT MANAGER, PS=PROJECT SCIENTIST, MG=PROGRAM MANAGER, SC=PROGRAM SCIENTIST)
 PS - W. NEUPERT *****NASA-GSFC
 GREENBELT, MD
 SC - A.F. TIMOTHY *****NASA HEADQUARTERS
 WASHINGTON, DC

SPACECRAFT BRIEF DESCRIPTION

THE EUROPEAN SPACE RESEARCH ORGANIZATION (ESRO) IS DEVELOPING SPACELAB, AN ARRAY OF INTERCHANGEABLE COMPONENTS (PRESSURIZED MANNED LABORATORIES, UNPRESSURIZED PLATFORMS, AND RELATED SUPPORT SYSTEMS) TO BE MOUNTED IN THE SPACE SHUTTLE PAYLOAD BAY. THIS PROJECT CONSISTS OF FACILITY DEFINITION TEAMS WHICH WILL DEFINE A SET OF GENERAL PURPOSE FACILITIES (E.G., BASIC TELESCOPES AND SUPPORT SYSTEMS) APPLICABLE TO A BALANCED PROGRAM OF SOLAR PHYSICS. THESE TEAMS, DRAWN FROM THE SCIENTIFIC COMMUNITY WILL WORK THROUGH A STEERING COMMITTEE, AND WILL DEFINE THE INSTRUMENTATION NEEDED AND THE REQUIREMENTS THESE INSTRUMENTS WILL PLACE ON THE SPACELAB.

-----, SPACELAB-SCLAR, ACTON -----

EXPERIMENT NAME- SPECIAL PURPOSE FACILITY DEFINITION TEAM

NSSDC ID- SPLBSOL-04

LAST REPORTED STATE- APPROVED CONDITIONALLY

DSS DIVISION- PHYSICS AND ASTRONOMY PROGRAMS
 DISCIPLINE(S)- SOLAR PHYSICS

EXPERIMENT PERSONNEL (PI=PRINCIPAL INVESTIGATOR, TL=TEAM LEADER
 DI=OTHER INVESTIGATOR, TM=TEAM MEMBER)
 TL - L. ACTON *****LOCKHEED PALO ALTO
 PALO ALTO, CA
 TM - C. WOLFSON *****LOCKHEED PALO ALTO
 PALO ALTO, CA
 TM - R.S. WHITE *****U OF CALIF, RIVERSIDE
 RIVERSIDE, CA
 TM - E. CHUPP *****U OF NEW HAMPSHIRE
 DURHAM, NH
 TM - R. MACQUEEN *****HIGH ALTITUDE OBS
 BOULDER, CO
 TM - J. BECKERS *****SACRAMENTO PEAK OBS
 SUNSPOT, NM
 TM - R. BLAKE *****LCS ALAMOS SCI LAB
 LOS ALAMOS, NM

EXPERIMENT BRIEF DESCRIPTION

THIS FACILITY DEFINITION TEAM (FDT) WILL STUDY PROBLEMS ASSOCIATED WITH QUICK REACTION OR SPECIAL PURPOSE INSTRUMENTATION THAT IS NOT EXPENSIVE, NOR OF GENERAL ENOUGH APPLICATION TO BE CONSIDERED AN INDEPENDENT FACILITY. INCLUDED IN THIS TYPE OF INSTRUMENTATION ARE SOLAR GAMMA RAY AND SOLAR NEUTRON DETECTORS AND A CORNAGRAPH. A STANDARD INTERFACE WILL BE DEFINED WHICH WILL ALLOW THE LOW-CCST FLIGHT OF EXISTING SATELLITE EXPERIMENTS AND OF EXISTING AND NEW SOUNDING ROCKET CLASS PAYLOADS.

-----, SPACELAB-SCLAR, DUNN -----

EXPERIMENT NAME- ONE METER SOLAR TELESCOPE FACILITY DEFINITION TEAM

NSSDC ID- SPLBSOL-01

LAST REPORTED STATE- APPROVED CONDITIONALLY

DSS DIVISION- PHYSICS AND ASTRONOMY PROGRAMS
 DISCIPLINE(S)- SOLAR PHYSICS

EXPERIMENT PERSONNEL (PI=PRINCIPAL INVESTIGATOR, TL=TEAM LEADER
 DI=OTHER INVESTIGATOR, TM=TEAM MEMBER)
 TL - R. DUNN *****SACRAMENTO PEAK OBS
 SUNSPOT, NM
 TM - R. FISHER *****SACRAMENTO PEAK OBS
 SUNSPOT, NM
 TM - P. LEMAIRE *****CNRS-LPSP
 VERRIERES LE BUISSON, FRANCE
 TM - R. SMITHSON *****LOCKHEED PALO ALTO
 PALO ALTO, CA
 TM - J. HARVEY *****KITT PEAK NATL OBS
 TUCSON, AZ
 TM - R. MILKEY *****KITT PEAK NATL OBS
 TUCSON, AZ

EXPERIMENT BRIEF DESCRIPTION

THIS FACILITY DEFINITION TEAM WILL STUDY PROBLEMS ASSOCIATED WITH A 1-METER, DIFFRACTION-LIMITED SOLAR TELESCOPE FACILITY.

-----, SPACELAB-SCLAR, PETERSON -----

EXPERIMENT NAME- SCLAR FADC X-RAY FACILITY DEFINITION TEAM

NSSDC ID- SPLBSOL-03

LAST REPORTED STATE- APPROVED CONDITIONALLY

DSS DIVISION- PHYSICS AND ASTRONOMY PROGRAMS
 DISCIPLINE(S)- SOLAR PHYSICS

EXPERIMENT PERSONNEL (PI=PRINCIPAL INVESTIGATOR, TL=TEAM LEADER
 DI=OTHER INVESTIGATOR, TM=TEAM MEMBER)
 TL - L. PETERSON *****U OF CALIF, SAN DIEGO
 LA JOLLA, CA
 TM - G. GARMIRE *****CALIF INST OF TECH
 PASADENA, CA
 TM - R. LIN *****U OF CALIF, BERKELEY
 BERKELEY, CA
 TM - Z. SVESTKA *****AS+E, INC
 CAMBRIDGE, MA
 TM - H. VAN BEEK *****SPACE RESEARCH LAB
 UTRECHT, NETHERLANDS

EXPERIMENT BRIEF DESCRIPTION

THIS FACILITY DEFINITION TEAM WILL STUDY PROBLEMS ASSOCIATED WITH HARD X-RAY (20-100 KEV) COLLIMATOR FACILITY. THIS FACILITY WILL BE CAPABLE OF ARC-SEC RESOLUTION AND WILL ALLOW VARIOUS INSTRUMENTS (E.G., SPECTROMETERS AND POLARIMETERS) TO BE MOUNTED BEHIND IT.

-----, SPACELAB-SOLAR, WITBROE -----

EXPERIMENT NAME- SOLAR EUV-XUV-SOFT X-RAY TELESCOPE DEFINITION TEAM

NSSDC ID- SPLBSOL-02

LAST REPORTED STATE- APPROVED CONDITIONALLY

DSS DIVISION- PHYSICS AND ASTRONOMY PROGRAMS
 DISCIPLINE(S)- SOLAR PHYSICS

EXPERIMENT PERSONNEL (PI=PRINCIPAL INVESTIGATOR, TL=TEAM LEADER
 DI=OTHER INVESTIGATOR, TM=TEAM MEMBER)
 TL - G. WITBROE *****HARVARD COLLEGE OBS
 CAMBRIDGE, MA
 TM - J.G. TIMOTHY *****HARVARD COLLEGE OBS
 CAMBRIDGE, MA
 TM - W. BEHRING *****NASA-GSFC
 GREENBELT, MD
 TM - W. NEUPERT *****NASA-GSFC
 GREENBELT, MD
 TM - G. ERUECKNER *****US NAVAL RESEARCH LAB
 WASHINGTON, DC
 TM - A. GABRIEL *****APPLETON LAB
 SLOUGH BUCKS, ENGLAND
 TM - A. KRIEGER *****AS+E, INC
 CAMBRIDGE, MA
 TM - A.B.C. WALKER *****STANFORD U
 STANFORD, CA

EXPERIMENT BRIEF DESCRIPTION

THIS FACILITY DEFINITION TEAM WILL STUDY PROBLEMS ASSOCIATED WITH EUV, X RAY-ULTRAVIOLET (XUV), AND SOFT X-RAY FACILITIES OPERATING BETWEEN 4 A AND 1200 A. IT WILL CONSIDER BOTH NORMAL INCIDENCE AND GRAZING INCIDENCE OPTICS AND BOTH GRATING AND CRYSTAL SPECTROMETERS.

3. INDEX OF SPACECRAFT AND EXPERIMENTS

This index sorts all spacecraft and experiment names described in section 2 of this supplement and the December 1974 report. Spacecraft are listed alphabetically by common and alternate names. Alternate names are printed with a reference to the NSSDC spacecraft common name. Next to the common name are printed the sponsoring country and agency, launch date, orbit type, NSSDC ID code, and status.

For launched spacecraft, the epoch date, status, and spacecraft or experiment data rate are listed under the CURRENT STATE heading. Unlaunched spacecraft are designated either PROPOSED or APPROVED; each of their experiments is designated APPROVED or APPROVED CONDITIONALLY. Current state values for launched spacecraft and experiments became effective on the date shown in the EPOCH date column and are current as of March 31, 1975. Appendix A of the December 1974 report contains explanations of the terms used in these columns.

Experiments are listed following the associated spacecraft common name and are ordered alphabetically by the principal investigator's (PI) or team leader's (TL) last name. The experiment name, NSSDC ID code, and the experiment status are also given for each experiment. Finally, each name is followed by a page number referencing the spacecraft or experiment description in the December 1974 report (pages 5-99) or in this supplement (pages 1005-1016).

INDEX OF SPACECRAFT AND EXPERIMENTS

SPACECRAFT NAME	COUNTRY AND AGENCY	LAUNCH DATE	ORBIT TYPE	NSSDC ID	EPOCH MMDDYY	STATUS	DATA RATE	PAGE NO.
*PRINC. INVEST. NAME	EXPERIMENT NAME							
AD-1	SEE DADE-A							
AD-2	SEE DADE-B							
AD-A	UNITED STATES NASA-DSS 12/19/63 GEOCENTRIC			63-053A	12/19/63	PARTIAL	SUBS	1005
JACCHIA KEATING	NONSYSTEMATIC CHANGES OF AIR DENSITY			63-053A-01	12/19/63	NORMAL	SUBS	1005
	SYSTEMATIC CHANGES OF AIR DENSITY			63-053A-02	12/19/63	NORMAL	SUBS	1005
AD-C	UNITED STATES NASA-CSS 08/08/68 GEOCENTRIC			68-066A	06/00/71	PARTIAL	SUBS	1005
JACCHIA KEATING	NONSYSTEMATIC CHANGES OF AIR DENSITY			68-066A-01	12/03/74	PARTIAL	SUBS	1005
	SYSTEMATIC CHANGES OF AIR DENSITY			68-066A-02	12/03/74	PARTIAL	SUBS	1005
AE-C	UNITED STATES NASA-CSS 12/16/73 GEOCENTRIC			73-101A	12/16/73	NORMAL	STD	5
BARTH BRACE GINTON CHAMPION DOERING HANSON HAYS HEATH HINTEREGGER HOFFMAN HOFFMAN NIER RICE RICE SPENCER	ULTRAVIOLET NITRIC-OXIDE EXPERIMENT ELECTRON TEMPERATURE AND CONCENTRATION BENNETT ION-MASS SPECTROMETER ATMOSPHERIC DRAG PHOTOCALORON SPECTROMETER ION TEMPERATURE AIRGLOW PHOTOMETER SOLAR EUV FILTER PHOTOMETER SOLAR EUV SPECTROPHOTOMETER MAGNETIC ION-MASS SPECTROMETER LOW-ENERGY ELECTRONS OPEN SOURCE NEUTRAL MASS SPECTROMETER COLD CATHODE ION GAUGE CAPACITANCE MANOMETER NEUTRAL GAS TEMPERATURE AND CONCENTRATION			73-101A-13	12/16/73	NORMAL	STD	6
				73-101A-01	12/16/73	NORMAL	STD	6
				73-101A-11	12/16/73	NORMAL	STD	6
				73-101A-02	12/17/73	NORMAL	STD	6
				73-101A-03	12/16/73	NORMAL	STD	7
				73-101A-04	12/16/73	NORMAL	STD	7
				73-101A-14	12/16/73	NORMAL	STD	7
				73-101A-05	03/10/75	PARTIAL	STD	7
				73-101A-06	03/10/75	PARTIAL	STD	7
				73-101A-10	12/16/73	NORMAL	STD	8
				73-101A-12	12/16/73	NORMAL	STD	8
				73-101A-07	12/16/73	NORMAL	STD	8
				73-101A-15	12/16/73	NORMAL	STD	8
				73-101A-16	12/16/73	NORMAL	STD	9
				73-101A-09	03/10/75	PARTIAL	STD	9
AE-D	UNITED STATES NASA-DSS SEPT. 75 GEOCENTRIC			AE-D		APPROVED		9
BARTH BRACE CHAMPION DOERING HANSON HAYS HINTEREGGER HOFFMAN HOFFMAN NIER PELZ RICE RICE SPENCER	ULTRAVIOLET NITRIC-OXIDE EXPERIMENT ELECTRON TEMPERATURE AND CONCENTRATION ATMOSPHERIC DRAG PHOTOCALORON SPECTROMETER ION TEMPERATURE AIRGLOW PHOTOMETER SOLAR EUV SPECTROPHOTOMETER ION COMPOSITION AND CONCENTRATION LOW-ENERGY ELECTRONS OPEN SOURCE NEUTRAL MASS SPECTROMETER CLOSED SOURCE NEUTRAL MASS SPECTROMETER CAPACITANCE MANOMETER COLD CATHODE ION GAUGE NEUTRAL GAS TEMPERATURE AND CONCENTRATION			AE-D-11		APPROVED		9
				AE-D-01		APPROVED		10
				AE-D-02		APPROVED		10
				AE-D-03		APPROVED		10
				AE-D-04		APPROVED		10
				AE-D-13		APPROVED		10
				AE-D-06		APPROVED		11
				AE-D-10		APPROVED		11
				AE-D-12		APPROVED		11
				AE-D-07		APPROVED		11
				AE-D-08		APPROVED		12
				AE-D-14		APPROVED		12
				AE-D-15		APPROVED		12
				AE-D-09		APPROVED		13
AE-E	UNITED STATES NASA-DSS SEPT. 75 GEOCENTRIC			AE-E		APPROVED		13
GRACE GINTON CHAMPION DOERING HANSON HAYS HEATH HINTEREGGER NIER PELZ RICE RICE SPENCER	ELECTRON TEMPERATURE AND CONCENTRATION ION COMPOSITION AND CONCENTRATION ATMOSPHERIC DRAG PHOTOCALORON SPECTROMETER ION TEMPERATURE AIRGLOW PHOTOMETER SOLAR EUV FILTER PHOTOMETER OPEN SOURCE NEUTRAL MASS SPECTROMETER CLOSED SOURCE NEUTRAL MASS SPECTROMETER CAPACITANCE MANOMETER COLD CATHODE ION GAUGE NEUTRAL GAS TEMPERATURE AND CONCENTRATION			AE-E-01		APPROVED		13
				AE-E-10		APPROVED		13
				AE-E-02		APPROVED		14
				AE-E-03		APPROVED		14
				AE-E-04		APPROVED		14
				AE-E-11		APPROVED		14
				AE-E-05		APPROVED		14
				AE-E-06		APPROVED		15
				AE-E-07		APPROVED		15
				AE-E-08		APPROVED		15
				AE-E-12		APPROVED		16
				AE-E-13		APPROVED		16
				AE-E-09		APPROVED		16
AEROS 2	FED REP OF GERMANY GFM 07/16/74 GEOCENTRIC			74-055A	08/06/74	PARTIAL	SUBS	16
UNITED STATES NASA-DSS								
KRANKOWSKY	MASS SPECTROMETER (MS)			74-055A-01	08/06/74	NORMAL	SUBS	17
NESEK	ELECTRON CONCENTRATION IN THE IONOSPHERE			74-055A-03	08/06/74	NORMAL	SUBS	17
ROEMER	ATMOSPHERIC DRAG ANALYSIS			74-055A-06	08/06/74	NORMAL	SUBS	17
SCHMIDTKE	FLUX AND SPECTRAL DISTRIBUTION OF SOLAR EUV RAD AND THEIR TEMP AND SPATIAL VAR			74-055A-04	08/06/74	NORMAL	SUBS	17
SPENCER	NEUTRAL ATMOSPHERE TEMPERATURE EXPERIMENT			74-055A-05	08/06/74	NORMAL	SUBS	17
SPENNER	ENERGY DISTRIBUTION OF IONS AND ELECTRONS			74-055A-02	08/06/74	NORMAL	SUBS	17
AEROS-8	SEE AEROS 2							
ALOUETTE 2	CANADA CRC 11/25/65 GEOCENTRIC			65-098A	03/01/73	PARTIAL	SUBS	18
UNITED STATES NASA-DSS								
BELFOSE	VLF RECEIVER			65-098A-02	03/01/73	NORMAL	SUBS	18
GRACE	CYLINDRICAL ELECTROSTATIC PROBE			65-098A-05	03/01/73	NORMAL	SUBS	18
HARTZ	CCSMIC RADIO ACISE			65-098A-03	03/01/73	NORMAL	SUBS	18
MCDIARMID	ENERGETIC PARTICLE DETECTCRS			65-098A-04	03/03/73	NORMAL	SUBS	18
*HITTEKFF	SLEEP FREQUENCY SOUNDER			65-098A-01	03/01/73	NORMAL	SUBS	19
ALOUETTE-8	SEE ALOUETTE 2							
ALPO	SEE LUNAR POLAR ORB-DAUGHTER							
ALPO	SEE LUNAR POLAR ORB-MOTHER							
ALSEP 12	SEE APOLLO 12 LM/ALSEP							
ALSEP 14	SEE APOLLO 14 LM/ALSEP							

* * * * * SPACECRAFT NAME		COUNTRY AND AGENCY		LAUNCH DATE	CRBIT TYPE	*	-----CURRENT STATE-----				
* * * * * PRINC.INVEST.NAME		* * * * * EXPERIMENT NAME		*	*	*	NSSDC ID	EPOCH MMDDYY	STATUS	DATA RATE	PAGE NO.
ALSEP 15		SEE APOLLO 15 LM/ALSEP									
ALSEP 16		SEE APOLLC 16 LM/ALSEP									
ALSEP 17		SEE APOLLC 17 LM/ALSEP									
AMPS	UNITED STATES	NASA-OSS	STUDY	GEOCENTRIC	AMPS		PROPOSED				19
ANS	NETHERLANDS	NIVR	08/30/74	GEOCENTRIC	74-070A	08/30/74	NORMAL		SUBS		19
BRINKMAN	UNITED STATES	NASA-OSS			74-070A-02	08/30/74	NORMAL		SUBS		19
GURSKY	LOW-ENERGY X-RAY EXPERIMENT				74-070A-03	08/30/74	NORMAL		SUBS		19
VANDUINEN	HIGH ANGULAR AND SPECTRAL RESOLUTION OBSERVATIONS OF COSMIC X-RAY SOURCES	UV TELESCOPE			74-070A-01	08/30/74	NORMAL		SUBS		20
APOLLO 11 LM	SEE APOLLC 11 LM/EASEP										
APOLLO 11 LM/EASEP ALLEY	UNITED STATES	NASA-OMSF	07/16/69	LUNAR LANDER	69-059C	12/14/69	INOPERABLE		ZERO STD	1006	
	LASER RANGING RETROREFLECTOR				69-059C-04	07/20/69	NORMAL			1006	
APOLLO 12 LM/ALSEP	UNITED STATES	NASA-OMSF	11/14/69	LUNAR LANDER	69-099C	11/19/69	NORMAL		STD	20	
FREEMAN	UNITED STATES	NASA-CSS			69-099C-05	12/03/74	PARTIAL		SUBS		20
LATHAM	SUPRATHERMAL ION DETECTOR				69-099C-03	11/19/69	PARTIAL		STD		20
SNYDER	PASSIVE SEISMIC				69-099C-02	11/05/71	PARTIAL		STD		20
SCLAR WIND SPECTROMETER											
APOLLO 12C	SEE APOLLC 12 LM/ALSEP										
APOLLO 14 LM/ALSEP	UNITED STATES	NASA-CMSF	01/31/71	LUNAR LANDER	71-008C	02/28/75	PARTIAL		SUBS	1006	
FALLER	UNITED STATES	NASA-CSS			71-008C-09	02/05/71	NORMAL		STD	1006	
FREEMAN	LASER RANGING RETROREFLECTOR				71-008C-06	03/29/72	PARTIAL		SUBS	21	
JOHNSON	SUPRATHERMAL ION DETECTOR				71-008C-07	04/15/73	PARTIAL		SUBS	21	
KOVACH	COLD CATHODE ION GAUGE EXPERIMENT				71-008C-05	12/07/73	PARTIAL		SUBS	21	
LATHAM	ACTIVE SEISMIC				71-008C-04	03/20/72	PARTIAL		SUBS	21	
O'BRIEN	PASSIVE SEISMIC				71-008C-08	06/06/71	PARTIAL		SUBS	21	
	CHARGED PARTICLE LUNAR ENVIRONMENT										
APOLLO 14C	SEE APOLLC 14 LM/ALSEP										
APOLLO 15 LM/ALSEP	UNITED STATES	NASA-OMSF	07/26/71	LUNAR LANDER	71-063C	07/30/71	NORMAL		STD	1006	
BATES	UNITED STATES	NASA-OSS			71-063C-09	07/31/71	NORMAL		STD	22	
FALLER	LUNAR DUST DETECTOR				71-063C-08	07/30/71	NORMAL		STD	1007	
FREEMAN	LASER RANGING RETROREFLECTOR				71-063C-05	09/13/73	PARTIAL		SUBS	22	
JOHNSON	SUPRATHERMAL ION DETECTOR				71-063C-07	02/22/73	PARTIAL		SUBS	22	
LANGSETH	COLD CATHODE ION GAUGE EXPERIMENT				71-063C-06	08/07/71	PARTIAL		STD	22	
LATHAM	HEAT FLOW				71-063C-01	07/31/71	NORMAL		STD	23	
	PASSIVE SEISMIC										
APOLLO 15C	SEE APOLLC 15 LM/ALSEP										
APOLLO 16 LM/ALSEP	UNITED STATES	NASA-CMSF	04/16/72	LUNAR LANDER	72-031C	04/21/72	NORMAL		STD	23	
DYAL	UNITED STATES	NASA-CSS			72-031C-03	08/17/73	NORMAL		STD	23	
KOVACH	LUNAR SURFACE MAGNETOMETER				72-031C-02	12/03/74	PARTIAL		SUBS	23	
LATHAM	ACTIVE SEISMIC				72-031C-01	04/21/72	NORMAL		STD	23	
	PASSIVE SEISMIC										
APOLLO 16C	SEE APOLLC 16 LM/ALSEP										
APOLLO 17 LM/ALSEP	UNITED STATES	NASA-CMSF	12/07/72	LUNAR LANDER	72-096C	12/11/72	NORMAL		STD	24	
BERG	UNITED STATES	NASA-OSS			72-096C-05	12/17/72	PARTIAL		SUBS	24	
KOVACH	LUNAR EJECTA AND METEORITES				72-096C-06	12/03/74	PARTIAL		SUBS	24	
LANGSETH	LUNAR SEISMIC PROFILING EXPERIMENT				72-096C-01	12/11/72	NORMAL		STD	24	
WEBER	HEAT FLOW				72-096C-09	12/12/72	PARTIAL		SUBS	24	
	LUNAR SURFACE GRAVIMETER										
APOLLO 17C	SEE APOLLO 17 LM/ALSEP										
ASTRO NETHERLAND SAT.		SEE ANS									
ATMOSPHERE EXPLORER-C		SEE AE-C									
ATMOSPHERE EXPLORER-D		SEE AE-D									
ATMOSPHERE EXPLORER-E		SEE AE-E									
ATS 5	UNITED STATES	NASA-CA	08/12/69	GEOCENTRIC	69-069A	06/01/73	PARTIAL		SUBS	1007	
DAROSA	RADIC BEACON				69-069A-12	03/10/75	NORMAL		SUBS	1007	
MCILWAIN	OMNIDIIRECTIONAL HIGH-ENERGY PARTICLE DETECTOR				69-069A-03	08/00/72	NORMAL		SUBS	1007	
MCILWAIN	BIDIRECTIONAL LOW-ENERGY PARTICLE DETECTOR				69-069A-11	08/00/73	PARTIAL		SUBS	1007	
MOZER	TRI-DIRECTIONAL MEDIUM-ENERGY PARTICLE DETECTOR				69-069A-04	03/10/75	NORMAL		SUBS	1007	
SHARP	PROTON ELECTRON DETECTOR				69-069A-05	03/10/75	NORMAL		SUBS	1008	
SUGIURA	MAGNETIC FIELD MONITOR				69-069A-13	06/10/73	PARTIAL		SUBS	1008	
ATS 6	UNITED STATES	NASA-CA	05/30/74	GEOCENTRIC	74-039A	05/30/74	NORMAL		STD	1008	
COLEMAN, JR.	MAGNETOMETER EXPERIMENT				74-039A-02	05/30/74	NORMAL		STD	1008	
DAVIES	RADIC BEACON				74-039A-09	10/01/74	NORMAL		STD	1008	
FRITZ	MEASUREMENT OF LOW-ENERGY PROTONS				74-039A-01	06/10/74	NORMAL		STD	1009	
MASLEY	SCALAR COSMIC RAYS AND GEOMAGNETICALLY TRAPPED RADIATION				74-039A-06	06/14/74	NORMAL		STD	1009	
MCILWAIN	AURORAL PARTICLES EXPERIMENT				74-039A-05	06/15/74	NORMAL		STD	1009	
PAULIKAS	OMNIDIIRECTIONAL SPECTROMETER				74-039A-07	06/14/74	NORMAL		STD	1009	
WINCKLER	PARTICLE ACCELERATION MECHANISMS AND DYNAMICS OF THE OUTER TRAPPING REGION				74-039A-04	06/14/74	NORMAL		STD	1009	

* SPACECRAFT NAME	COUNTRY AND AGENCY	LAUNCH DATE	ORBIT TYPE	-----CURRENT STATE-----					
				NSSDC ID	EPOCH MMDDYY	STATUS	DATA RATE	PAGE NO.	
** PRINC. INVEST. NAME	EXPERIMENT NAME								
ATS-E	SEE ATS 5								
ATS-F	SEE ATS 6								
AUTO-LUNAR POLAR ORBITER	SEE LUNAR POLAR OFF-DAUGHTER								
AUTO-LUNAR POLAR ORBITER	SEE LUNAR POLAR OFF-MOTHER								
COPERNICUS	SEE DAC 3								
DAD	SEE DADE-A								
DAD	SEE DADE-B								
DADE-A	UNITED STATES KEATING NIER	NASA-CSS ATMOSPHERIC DRAG DENSITY ATMOSPHERIC COMPOSITION MASS SPECTROMETER	NOV. 75	GEOCENTRIC	DADE-A DADE-A -01 DADE-A -02	APPROVED APPROVED APPROVED	25 25 25		
DADE-B	UNITED STATES KEATING NIER	NASA-CSS ATMOSPHERIC DRAG DENSITY ATMOSPHERIC COMPOSITION MASS SPECTROMETER	NOV. 75	GEOCENTRIC	DADE-B DADE-B -01 DADE-B -02	APPROVED APPROVED APPROVED	25 25 26		
DAUGHTER	SEE ISEE-E								
DUAL AIR DENSITY EXPL-A	SEE DADE-A								
DUAL AIR DENSITY EXPL-B	SEE DADE-B								
EGRET	UNITED STATES	NASA-CSS	00/00/79	GEOCENTRIC	EGRET	PROPOSED	1009		
ELECTRODYNAMICS EXPL/CREA	UNITED STATES	NASA-CSS	00/00/79		EE	PROPOSED	1010		
EXPLORER 19	SEE AD-A								
EXPLORER 39	SEE AD-C								
EXPLORER 44	SEE SCLFAD 10								
EXPLORER 47	SEE IMP-H								
EXPLORER 49	SEE RAE-E								
EXPLORER 50	SEE IMP-J								
EXPLORER 51	SEE AE-C								
EXPLORER 52	SEE HAWKEYE 1								
GAMMA-RAY EXPLORER	SEE EGRET								
GP-A	UNITED STATES VESSOT	NASA-CSS GRAVITATIONAL POTENTIAL AS A FUNCTION OF TIME	1975	GEOCENTRIC	GRAVR-A GRAVR-A-01	APPROVED APPROVED	26 26		
GRAVITATIONAL REDSHIFT	SEE GP-A								
GRAVR-A	SEE GP-A								
HAWKEYE 1	UNITED STATES FRANK GURNETT VAN ALLEN	NASA-CSS LG-E ENERGY PFTCNS AND ELECTRONS ELF/VLF RECEIVERS TRIAXIAL FLUXGATE MAGNETOMETER	06/03/74	GEOCENTRIC	74-040A 74-040A-02 74-040A-03 74-040A-01	06/03/74 06/03/74 06/03/74 06/03/74	NORMAL NORMAL NORMAL NORMAL	STD STD STD STD	1010 26 26 27
HEAD-A	UNITED STATES BOLDT FRIEDMAN GURSKY PETEPSON	NASA-CSS CCS/CIC X-RAY EXPERIMENT LARGE AREA CCSMIC X-RAY SURVEY X-RAY SCANNING MODULATION COLLIMATOR LOW-ENERGY GAMMA-RAY AND HARD X-RAY SKY SURVEY	1HALF 77	GEOCENTRIC	HEAD-A HEAD-A -02 HEAD-A -01 HEAD-A -03 HEAD-A -04	APPROVED APPROVED APPROVED APPROVED APPROVED	27 27 27 27 28		
HEAD-B	UNITED STATES BOLDT CLARK	NASA-CSS SOLID-STATE X-RAY DETECTOR A CURVED-CRYSTAL BRAGG X-RAY SPECTROMETER	2HALF 78	GEOCENTRIC	HEAD-B HEAD-B -05 HEAD-B -03	APPROVED APPROVED APPROVED	28 28 28		
GIACCONI	GIACCONI GURSKY	MONITOR PROPORTIONAL COUNTER HIGH RESOLUTION IMAGER IMAGING PROPORTIONAL COUNTER			HEAD-B -01 HEAD-B -02 HEAD-B -04	APPROVED APPROVED APPROVED	28 29 29		
HEAD-C	UNITED STATES ISRAEL JACOBSSON KOCHE	NASA-CSS HEAVY NUCLEII EXPERIMENT GAMMA-RAY LINE SPECTROMETER ISOTOPIC COMPOSITION OF COSMIC RAYS	2HALF 79	GEOCENTRIC	HEAD-C HEAD-C -03 HEAD-C -01 HEAD-C -04	APPROVED APPROVED APPROVED APPROVED	29 29 29 29		
HELIOPHILIC	SEE ISEE-C								
HELIUS-A	FRG REP OF GERMANY UNITED STATES	BMW NASA-CSS	12/10/74	HELIOPHILIC	74-097A 74-097A-12 74-097A-13	12/10/74 12/10/74 12/10/74	NORMAL NORMAL NORMAL	STD STD STD	1010 1010 1010
FECHTIG	GURNETT	MICROMETEOROID DETECTOR AND ANALYZER RADIO FREQUENCY ELECTRIC FIELDS IN SOLAR PLASMA			74-097A-10 74-097A-14 74-097A-07	12/10/74 12/10/74 12/10/74	NORMAL NORMAL NORMAL	STD STD STD	31 31 31
KEPLER	KUND KUND	ENERGETIC ELECTRON DETECTOR CELESTIAL MECHANICS COSMIC-RAY PARTICLES							

* * * * * SPACECRAFT NAME COUNTRY AND AGENCY LAUNCH DATE ORBIT TYPE * * * * * NSSDC ID EPOCH STATUS DATA RATE PAGE NO.				-----CURRENT STATE-----				
* * * * * PRINC.INVEST.NAME EXPERIMENT NAME * * * * *				* * * * *				
LEINERT	ZODIACAL LIGHT PHOTOMETER			74-097A-11	12/10/74	NORMAL	STD	31
NESS	FLUXGATE MAGNETOMETER FOR AVERAGE FIELDS			74-097A-02	12/10/74	NORMAL	STD	31
NEUBAUER	FLUXGATE MAGNETOMETER FOR FIELD FLUCTUATIONS			74-097A-01	12/10/74	NORMAL	STD	31
NEUBAUER	SEARCH COIL MAGNETOMETER			74-097A-03	12/10/74	NORMAL	STD	31
ROSENBAUER	PLASMA DETECTORS			74-097A-09	12/10/74	NORMAL	STD	32
TRAINOR	GALACTIC AND SOLAR COSMIC RAYS			74-097A-08	12/10/74	NORMAL	STD	32
HELIOS-B	FED REP OF GERMANY BMWF	JAN. 76	HELIOPCENTRIC	HELIOS-B		APPROVED	1010	
FECHTIG	UNITED STATES NASA-CSS			HELIOS-B-12		APPROVED	32	
GURNETT	MICROMETEOROID DETECTOR AND ANALYZER RADIO FREQUENCY ELECTRIC FIELDS IN SOLAR PLASMA			HELIOS-B-13		APPROVED	1011	
KEPLER	ENERGETIC ELECTRON DETECTOR			HELIOS-B-10		APPROVED	33	
KUNDT	CELESTIAL MECHANICS			HELIOS-B-14		APPROVED CONDITIONALLY	33	
KUNOW	COSMIC-RAY PARTICLES			HELIOS-B-07		APPROVED	33	
LEINERT	ZODIACAL LIGHT PHOTOMETER			HELIOS-B-11		APPROVED	33	
NESS	FLUXGATE MAGNETOMETER FOR AVERAGE FIELDS			HELIOS-B-02		APPROVED	33	
NEUBAUER	FLUXGATE MAGNETOMETER FOR FIELD FLUCTUATIONS			HELIOS-B-01		APPROVED	33	
NEUBAUER	SEARCH COIL MAGNETOMETER			HELIOS-B-03		APPROVED	34	
ROSENBAUER	PLASMA DETECTORS			HELIOS-B-09		APPROVED	34	
TRAINOR	GALACTIC AND SOLAR COSMIC RAYS			HELIOS-B-08		APPROVED	34	
IME-D	SEE ISEE-B							
IME-H	SEE ISEE-C							
IME-M	SEE ISEE-A							
IMP 7	SEE IMP-H							
IMP 8	SEE IMP-J							
IMP-H	UNITED STATES NASA-CSS 09/23/72	GEOCENTRIC		72-073A	09/23/72	NORMAL	STD	34
BAME	MEASUREMENT OF SOLAR PLASMA			72-073A-10	09/23/72	NORMAL	STD	34
BRIDGE	MEASUREMENT OF SOLAR PLASMA			72-073A-02	12/11/73	PARTIAL	STD	35
CLINE	STUDY OF COSMIC-RAY, SOLAR, AND MAGNETOSPHERIC ELECTRONS			72-073A-13	10/13/72	NORMAL	STD	35
FRANK	MEASUREMENT OF LOW-ENERGY PROTONS AND ELECTRONS			72-073A-04	09/23/72	NORMAL	STD	35
GLOECKLER	ICONS AND ELECTRONS IN THE ENERGY RANGE 0.1 TO 2 MEV			72-073A-03	11/25/72	PARTIAL	STD	35
KRIMIGIS	CHARGED PARTICLE MEASUREMENTS EXPERIMENT			72-073A-08	12/11/73	PARTIAL	STD	35
MCDONALD	SOLAR AND COSMIC-RAY PARTICLES			72-073A-09	09/26/72	NORMAL	STD	35
OGILVIE	SOLAR WIND ICON COMPOSITION			72-073A-12	09/24/72	NORMAL	STD	36
SCARF	PLASMA WAVE EXPERIMENT			72-073A-11	09/24/72	NORMAL	SUBS	36
SIMPSON	SOLAR FLARE HIGH-Z/LOW-E AND LOW-Z ISOTOPE EXPERIMENT			72-073A-07	12/03/74	PARTIAL	STD	36
STONE	ELECTRONS AND HYDROGEN AND HELIUM ISOTOPES			72-073A-06	09/23/72	NORMAL	STD	36
WILLIAMS	ENERGETIC ELECTRONS AND PROTONS			72-073A-05	09/26/72	NORMAL	STD	36
IMP-J	UNITED STATES NASA-CSS 10/26/73	GEOCENTRIC		73-078A	10/26/73	NORMAL	STD	37
AGGSON	ELECTROSTATIC FIELDS			73-078A-11	10/26/73	NORMAL	STD	37
BAME	MEASUREMENT OF SOLAR PLASMA			73-078A-10	10/26/73	NCRMAL	STD	37
BRIDGE	MEASUREMENT OF SOLAR PLASMA			73-078A-02	10/26/73	NORMAL	STD	37
FRANK	MEASUREMENT OF LOW-ENERGY PROTONS AND ELECTRONS			73-078A-04	10/26/73	NORMAL	STD	37
GLOECKLER	SCLDIC-STATE DETECTORS			73-078A-03	10/26/73	NORMAL	STD	37
GURNETT	ELECTROSTATIC WAVES AND RATIO NOISE			73-078A-12	10/26/73	NORMAL	STD	38
KRIMIGIS	CHARGED PARTICLE MEASUREMENTS EXPERIMENT			73-078A-08	12/03/74	NORMAL	STD	38
MCDONALD	SOLAR AND COSMIC-RAY PARTICLES			73-078A-09	10/26/73	NORMAL	STD	38
NESS	MAGNETIC FIELD EXPERIMENT			73-078A-01	10/26/73	NCRMAL	STD	38
SIMPSON	SOLAR FLARE HIGH-Z/LOW-E AND LOW-Z EXPERIMENTS			73-078A-07	10/26/73	NORMAL	STD	38
STONE	ELECTRONS AND HYDROGEN AND HELIUM ISOTOPES			73-078A-06	10/26/73	NORMAL	STD	39
WILLIAMS	ENERGETIC ELECTRONS AND PROTONS			73-078A-05	10/26/73	NORMAL	STD	39
IMP-K	SEE ISEE-A							
IMP-K PRIME	SEE ISEE-B							
INJUN-F	SEE HAWKEYE 1							
INT ULTRAVIOLET EXPL	SEE IUE							
INTA SATELLITE	SEE INTASAT							
INTASAT	SPAIN CNIE-INTA	11/15/74	GEOCENTRIC	74-089C	11/15/74	NORMAL	STD	39
SAGREDO	UNITED STATES NASA-CSS			74-089C-01	11/15/74	NORMAL	STD	39
ISEE-A	UNITED STATES INTERNATIONAL NASA-CSS 2HALF 77	GEOCENTRIC		MOTHER		APPROVED	39	
ANDERSON	ENERGETIC ELECTRONS AND PROTONS			MOTHER-10		APPROVED CONDITIONALLY	40	
BAME	50-EV TO 40-KEV PROTON AND 5-EV TO 20-KEV ELECTRON PLASMA PROBE			MOTHER-01		APPROVED CONDITIONALLY	40	
FRANK	HCT PLASMA			MOTHER-03		APPROVED CONDITIONALLY	40	
GURNETT	10-HZ TO 10-KHZ MAGNETIC AND 10-MHz TO 200-KHZ ELECTRIC FIELD TRIAXIAL PROBES			MOTHER-07		APPROVED CONDITIONALLY	40	
HARVEY	ACTIVE PLASMA EXPERIMENT			MOTHER-08		APPROVED CONDITIONALLY	40	
HELLIWELL	VLF WAVE INJECTION			MOTHER-13		APPROVED CONDITIONALLY	41	
HEPPNER	DC ELECTRIC FIELDS			MOTHER-11		APPROVED CONDITIONALLY	41	

* * * * * SPACECRAFT NAME COUNTRY AND AGENCY EXPERIMENT NAME				LAUNCH DATE	ORBIT TYPE	-----CURRENT STATE-----				
						NSSDC ID	EPOCH MMDDYY	STATUS	DATA RATE	PAGE NO.
HOVESTADT MOZER OGILVIE	LOW-ENERGY COSMIC-RAY COMPOSITION DC TO 12-HZ ELECTRIC FIELD PROBE THREE-DIMENSIONAL (SIX AXES), 6-EV TO 10-KEV ELECTRON SPECTROMETER					MOTHER -05		APPROVED CONDITIONALLY		41
RUSSELL SHARO SIMPSON WILLIAMS	MAGNETIC FIELDS PLASMA COMPOSITION MEDIUM-ENERGY COSMIC RAYS ENERGETIC ELECTRONS AND PROTONS					MOTHER -06		APPROVED CONDITIONALLY		41
						MOTHER -02		APPROVED CONDITIONALLY		41
						MOTHER -04		APPROVED CONDITIONALLY		42
						MOTHER -12		APPROVED CONDITIONALLY		42
						MOTHER -14		APPROVED CONDITIONALLY		42
						MOTHER -09		APPROVED CONDITIONALLY		42
ISEE-5	UNITED STATES INTERNATIONAL	NASA-CSS ESRC	2HALF 77	GEOCENTRIC		DAUGHTER		APPROVED		42
ANDERSON EGIDI	ENERGETIC ELECTRONS AND PROTONS 50-EV TO 25-KEV ION AND 35-EV TO 7-KEV ELECTRON PLASMA PROBES					DAUGHTER-08		APPROVED CONDITIONALLY		43
FRANK GURNETT	HCT PLASMA 10-HZ TO 10-KHZ MAGNETIC AND 10-HZ TO 200-KHZ ELECTRIC FIELD MONOAXIAL PROBES					DAUGHTER-02		APPROVED CONDITIONALLY		43
HARVEY KEPLER PASCHMANN	RADIO PROPAGATION RECEIVER ENERGETIC ELECTRONS AND PROTONS 50-EV TO 40-KEV PROTON AND 5-EV TO 20-KEV ELECTRON PLASMA PROBE					DAUGHTER-03		APPROVED CONDITIONALLY		43
RUSSELL	MAGNETIC FIELDS					DAUGHTER-05		APPROVED CONDITIONALLY		43
						DAUGHTER-06		APPROVED CONDITIONALLY		44
						DAUGHTER-07		APPROVED CONDITIONALLY		44
						DAUGHTER-01		APPROVED CONDITIONALLY		44
						DAUGHTER-04		APPROVED CONDITIONALLY		44
ISEE-C	UNITED STATES	NASA-CSS	2HALF 78	HELIOCENTRIC		HELOC TR		APPROVED		44
ANDERSON BAME	X RAYS AND ELECTRONS 150-EV TO 7-KEV PROTON AND 5-EV TO 2.5-KEV ELECTRON PLASMA PROBE					HELOC TR-09		APPROVED CONDITIONALLY		44
DE FFITER HECKMAN HOVESTADT MEYER OGILVIE	ENERGETIC PROTONS HIGH-ENERGY COSMIC RAYS LOW-ENERGY COSMIC-RAY COMPOSITION COSMIC-RAY ELECTRONS AND NUCLEI MASS SPECTROMETER FOR 470 TO 10,500 EV PER CHARGE AND 1 TO 5.6 AMU PER CHARGE					HELOC TR-01		APPROVED CONDITIONALLY		45
SCARF	20-HZ TO 1-KHZ MAGNETIC AND 20-HZ TO 100-KHZ ELECTRIC FIELD DETECTORS					HELOC TR-08		APPROVED CONDITIONALLY		45
SMITH STEINBERG STONE VAN ROSENVING WILCOX	MAGNETIC FIELDS 20-KHZ TO 3-MHZ RADIO MAPPING COSMIC-RAY COMPOSITION SOLAR AND GALACTIC ENERGETIC PARTICLES SCALAR AND INTERPLANETARY MAGNETIC FIELDS (CORRELATIVE STUDY)					HELOC TR-05		APPROVED CONDITIONALLY		45
						HELOC TR-03		APPROVED CONDITIONALLY		45
						HELOC TR-06		APPROVED CONDITIONALLY		45
						HELOC TR-11		APPROVED CONDITIONALLY		46
						HELOC TR-07		APPROVED CONDITIONALLY		46
ISIS 1	CANADA UNITED STATES	CRC NASA-CSS	01/30/69	GEOCENTRIC	69-009A	01/30/70	PARTIAL	SUBS		47
BARRINGTON BRACE CALVERT FORSYTH HARTZ MCDAIMIC SAULYN WHITTEKER	VLF RECEIVER CYLINDRICAL ELECTROSTATIC PROBE FIXED FREQUENCY SOUNDER RADIO BEACON COSMIC RADIO NOISE ENERGETIC PARTICLE DETECTORS SPHERICAL ELECTROSTATIC ANALYZER SWEEP FREQUENCY SOUNDER				69-009A-03	01/30/70	NORMAL	SUBS		47
					69-009A-07	01/30/70	NORMAL	SUBS		47
					69-009A-02	01/30/70	NRML	SUBS		48
					69-009A-09	03/10/75	PARTIAL	ZERO		48
					69-009A-10	01/30/70	NORMAL	SUBS		48
					69-009A-04	01/30/70	NORMAL	SUBS		48
					69-009A-08	01/30/70	NORMAL	SUBS		48
					69-009A-01	01/30/70	NORMAL	SUBS		49
ISIS 2	CANADA UNITED STATES	CRC NASA-CSS	04/01/71	GEOCENTRIC	71-024A	10/02/74	NORMAL	SUBS		49
ANGER BARRINGTON BRACE CALVERT FORSYTH HARTZ HEIKKILA HOFFMAN KAIKU MCDAIMIC SHEPHERD WHITTEKER	3514- TC 5577-A PHOTOMETER VLF RECEIVER CYLINDRICAL ELECTROSTATIC PROBE FIXED FREQUENCY SOUNDER RADIO BEACON COSMIC RADIO NOISE SCFT-PARTICLE SPECTROMETER ION MASS SPECTROMETER RETARDING POTENTIAL ANALYZER ENERGETIC PARTICLE DETECTORS 6200-A PHOTOMETER SWEEP FREQUENCY SOUNDER				71-024A-11	02/04/73	NORMAL	SUBS		49
					71-024A-03	02/04/73	NORMAL	SUBS		50
					71-024A-07	02/04/73	NORMAL	SUBS		50
					71-024A-02	02/04/73	NORMAL	SUBS		50
					71-024A-05	03/10/75	PARTIAL	ZERO		50
					71-024A-10	02/04/73	NORMAL	SUBS		50
					71-024A-02	02/04/72	PARTIAL	STD		50
					71-024A-06	02/04/73	NORMAL	SUBS		51
					71-024A-08	02/04/73	NORMAL	SUBS		51
					71-024A-04	02/04/72	PARTIAL	STD		51
					71-024A-12	02/04/73	NORMAL	SUBS		51
					71-024A-01	02/04/73	NORMAL	SUBS		51
ISIS-A	SEE ISIS 1									
ISIS-B	SEE ISIS 2									
ISIS-X	SEE ALCETTE 2									
IUE	UNITED STATES INTERNATIONAL UNITED KINGDOM	NASA-CSS ESRC SRC	DEC. 76	GEOCENTRIC	SAS-D			APPROVED		52
NONE ASSIGNED	LOW/HIGH RESOLUTION, ULTRAVIOLET SPECTROGRAPH PACKAGE				SAS-D -01			APPROVED		52
LARGE SPACE TELESCOPE	SEE LST									
LEM 12	SEE APCLLC 12 LM/ALSEP									
LEM 14	SEE APCLLC 14 LM/ALSEP									
LEM 15	SEE APCLLC 15 LM/ALSEP									
LEM 16	SEE APCLLC 16 LM/ALSEP									
LEM 17	SEE APCLLC 17 LM/ALSEP									
LST	UNITED STATES	NASA-CSS	00/00/80	GEOCENTRIC	LST			PROPOSED		52
LUNAR POLAR DBR-DAUGHTER	UNITED STATES	NASA-CSS	PREP879	SELENOCENTRIC	LPO-D			PROPOSED		53

SPACECRAFT NAME	COUNTRY AND AGENCY	LAUNCH DATE	ORBIT TYPE	NSSDC ID	EPOCH MMDDYY	STATUS	DATA RATE	CURRENT STATE PAGE NO.
*PRINC.INVEST NAME	EXPERIMENT NAME			*	*	*	*	
LUNAR POLAR'ORB-MOTHER	UNITED STATES	NASA-CSS	PROPSOC79	SELENOCENTRIC	LPO-M	PROPOSED		
MARINER 10	UNITED STATES	NASA-CSS	11/03/73	VENUS FLYBY	73-085A	11/03/73	NORMAL	STD 53
BRIDGE	MEASUREMENT OF PLASMA ENVIRONMENT				73-085A-03	03/10/75	PARTIAL	STD 53
BROADFOOT	EUV SPECTROSCOPY				73-085A-05	11/03/73	NORMAL	STD 54
CHASE, JR.	TWO-CHANNEL IR RADIOMETER				73-085A-06	04/00/74	NORMAL	ZERO 54
HOWARD	S- AND X-BAND PACIC PROPAGATION				73-085A-02	11/03/73	NORMAL	STD 54
MURRAY	TELEVISION PHOTOGRAHY				73-085A-01	03/17/75	NORMAL	ZERO 54
NESS	FLUXGATE MAGNETOMETERS				73-085A-04	11/03/73	NORMAL	STD 55
SIMPSON	ENERGETIC PARTICLES				73-085A-07	11/03/73	NORMAL	STD 55
MARINER 73	SEE MARINER 10							
MARINER 77A	SEE MJS 77A							
MARINER 77B	SEE MJS 77B							
MARINER JUPITER/SATURN A	SEE MJS 77A							
MARINER JUPITER/SATURN B	SEE MJS 77B							
MARINER VENUS/MERCURY 73	SEE MARINER 10							
MARINER-J VENUS/MERCURY	SEE MARINER 10							
MJS 77A	UNITED STATES	NASA-CSS	08/00/77	JUPITER FLYBY	MARN77A		APPROVED	
BRIDGE	PLASMA				MARN77A-06		APPROVED	55
BROADFOOT	ULTRAVIOLET SPECTROSCOPY				MARN77A-04		APPROVED	55
ESHLEMAN	RADIO SCIENCE TEAM				MARN77A-02		APPROVED	55
HANEL	INFRARED SPECTROSCOPY AND RADIMETRY				MARN77A-03		APPROVED	56
KRIMIGIS	LOW-ENERGY CHARGED PARTICLE ANALYZER AND TELESCPE				MARN77A-07		APPROVED	56
LILLIE	MULTIFILTER PHOTOPOLARIMETER, 2200-7300 Å				MARN77A-11		APPROVED	56
NESS	TRIAXIAL FLUXGATE MAGNETOMETERS				MARN77A-05		APPROVED	56
SCARF	PLASMA WAVE				MARN77A-13		APPROVED CONDITIONALLY	57
SMITH	TV PHOTOGRAHY				MARN77A-01		APPROVED	57
VOGT	HIGH- AND MODERATELY LOW-ENERGY COSMIC-RAY TELESCOPE				MARN77A-08		APPROVED	57
WARWICK	PLANETARY RADIO ASTRONOMY				MARN77A-10		APPROVED	57
MJS 77B	UNITED STATES	NASA-CSS	08/00/77	JUPITER FLYBY	MARN77B		APPROVED	
BRIDGE	PLASMA				MARN77B-06		APPROVED	58
BROADFOOT	ULTRAVIOLET SPECTROSCOPY				MARN77B-04		APPROVED	58
ESHLEMAN	RADIO SCIENCE TEAM				MARN77B-02		APPROVED	58
HANEL	INFRARED SPECTROSCOPY AND RADIMETRY				MARN77B-03		APPROVED	58
KRIMIGIS	LOW-ENERGY CHARGED PARTICLE ANALYZER AND TELESCPE				MARN77B-07		APPROVED	59
LILLIE	MULTIFILTER PHOTOPOLARIMETER, 2200-7300 Å				MARN77B-11		APPROVED	59
NESS	TRIAXIAL FLUXGATE MAGNETOMETERS				MARN77B-05		APPROVED	59
SCARF	PLASMA WAVE				MARN77B-13		APPROVED CONDITIONALLY	59
SMITH	TV IMAGING				MARN77B-01		APPROVED	59
VOGT	HIGH- AND MODERATELY LOW-ENERGY COSMIC-RAY TELESCOPE				MARN77B-08		APPROVED	60
WARWICK	PLANETARY RADIO ASTRONOMY				MARN77B-10		APPROVED	60
MOTHER	SEE TSEE-A							
NEUTRAL POINT EXPLORER	SEE HAWKEYE 1							
OAO 3	UNITED STATES	NASA-CSS	08/21/72	GEOCENTRIC	72-065A	08/21/72	NORMAL	STD 60
BOYD	STELLAR PHOTOMETRY				72-065A-02	06/00/73	PARTIAL	STD 60
SPITZER	HIGH RESOLUTION TELESCOPES				72-065A-01	08/21/72	NORMAL	STD 61
OAO-C	SEE OAC 3							
ONE METER UV TELESCOPE	UNITED STATES	NASA-CSS	1982	GEOCENTRIC	OMUVTEL		PROPOSED	1011
HENIZE	INSTRUMENT DEFINITION TEAM				OMUVTEL-01		APPROVED CONDITIONALLY	1011
OSO 5	UNITED STATES	NASA-CSS	01/22/69	GEOCENTRIC	69-006A	07/15/74	PARTIAL	STD 61
BLAMONT	MEASUREMENT OF THE SELF FEVERSAL OF THE SOLAR LYMAN ALPHA LINE				69-006A-06	07/15/74	NORMAL	STD 61
BOYD	X RAY SPECTROHELICGRAPH				69-006A-01	07/15/74	NORMAL	STD 62
NEY	ZODIACAL LIGHT MONITOR				69-006A-07	03/27/75	PARTIAL	STD 62
OSO-EYE	SEE OSO-I							
OSO-F	SEE OSO 5							
OSO-I	UNITED STATES	NASA-CSS	MAY 1975	GEOCENTRIC	OSO-I		APPROVED	62
ACTION	MAPPING X-RAY HELIOMETER				OSO-I-04		APPROVED	62
BOLDT	CESMIC X-RAY SPECTROSCOPY				OSO-I-06		APPROVED	62
BONNET	CHROMOSPHERE FINE STRUCTURE STUDY				OSO-I-02		APPROVED	63
BRUNER, JR.	HIGH RESOLUTION ULTRAVIOLET SPECTROMETER MEASUREMENTS				OSO-I-01		APPROVED	63
FROST	HIGH-ENERGY CELESTIAL X RAYS				OSO-I-07		APPROVED	63
KRAUSHAAR	SCFT X-RAY BACKSCUD RADIATION INVESTIGATION				OSO-I-05		APPROVED	63
NOVICK	HIGH-SENSITIVITY GRAPHITE CRYSTAL SPECTROSCOPY OF STELLAR AND SOLAR X RAYS				OSO-I-03		APPROVED	63
WELLER, JR.	EUVE FROM EARTH AND SPACE				OSO-I-08		APPROVED	63
OUTER PLANETS A	SEE MJS 77A							
OUTER PLANETS B	SEE MJS 77B							

* SPACECRAFT NAME		COUNTRY AND AGENCY		LAUNCH DATE	ORBIT TYPE	*	-----CURRENT STATE-----				
* PRINC. INVEST. NAME		EXPERIMENT NAME		*	*	*	NSSOC ID	EPOCH MDDYY	STATUS	DATA RATE	PAGE NO.
* * * * *		* * * * *		*	*	*	*	*	*	*	*
PIONEER 6	BFJIGE	UNITED STATES	NASA-CSS	12/16/65	HELIOPHILIC	65-105A	02/07/71	NORMAL	SUBS	64	
ESHLERMAN		SOLAR WIND PLASMA FARADAY CUP		65-105A-02	12/03/74	PARTIAL	SUBS	64			
FAN		THREE-FREQUENCY BEACON RECEIVER		65-105A-04	02/07/71	NORMAL	SUBS	64			
MCCRACKEN		COSMIC-RAY TELESCOPE		65-105A-03	12/03/74	NORMAL	SUBS	64			
		COSMIC-RAY ANISOTROPY		65-105A-05	12/03/74	PARTIAL	SUBS	65			
PIONEER 7	WOLFE	UNITED STATES	NASA-CSS	08/17/66	HELIOPHILIC	66-075A	02/09/69	PARTIAL	SUBS	65	
MCCRACKEN		COSMIC-RAY ANISOTROPY		66-075A-05	01/01/71	PARTIAL	SUBS	65			
SIMPSON		COSMIC-RAY TELESCOPE		66-075A-06	12/03/74	NORMAL	SUBS	66			
WOLFE		ELECTROSTATIC ANALYZER		66-075A-03	02/16/69	PARTIAL	SUBS	66			
PIONEER 8	BERG	UNITED STATES	NASA-CSS	12/13/67	HELIOPHILIC	67-123A	05/02/71	NORMAL	SUBS	66	
ESHLERMAN		COSMIC DUST DETECTOR		67-123A-04	01/25/71	NORMAL	SUBS	67			
MCCRACKEN		TWO-FREQUENCY BEACON RECEIVER		67-123A-03	01/25/71	NORMAL	SUBS	67			
NESS		COSMIC-RAY ANISOTROPY		67-123A-05	05/02/71	NORMAL	SUBS	67			
WEBER		SINGLE-AXIS MAGNETOMETER		67-123A-01	05/02/71	NORMAL	SUBS	67			
WOLFE		COSMIC-RAY GRADIENT DETECTOR		67-123A-06	12/03/74	PARTIAL	SUBS	68			
PIONEER 9	BERG	UNITED STATES	NASA-CSS	11/08/68	HELIOPHILIC	68-100A	05/19/69	NORMAL	SUBS	68	
ESHLERMAN		COSMIC DUST DETECTOR		68-100A-04	05/19/69	NORMAL	SUBS	69			
MCCRACKEN		TWO-FREQUENCY BEACON RECEIVER		68-100A-03	12/03/74	NORMAL	STD	69			
SCARF		COSMIC-RAY ANISOTROPY		68-100A-05	05/19/69	NORMAL	SUBS	69			
SONETT		PLASMA WAVE DETECTOR		68-100A-07	05/19/69	NORMAL	SUBS	69			
WEBER		TRIAXIAL MAGNETOMETER		68-100A-01	05/19/69	NORMAL	SUBS	69			
WOLFE		COSMIC-RAY TELESCOPE		68-100A-06	05/19/69	NORMAL	SUBS	70			
PIONEER 10	WOLFE	UNITED STATES	NASA-CSS	03/03/72	JUPITER FLYBY	72-012A	03/03/72	NORMAL	STD	1011	
ANDERSON		CELESTIAL MECHANICS		72-012A-09	03/03/72	NORMAL	STD	70			
FILLIUS		JOVIAN TRAPPED RADIATION		72-012A-05	03/03/72	NORMAL	STD	71			
GENRELS		HIGH RESOLUTION PHOTO-IMAGING OF		72-012A-15	03/03/72	NORMAL	STD	1012			
JUDGE		JUPITER'S CLICL COVER									
KINARD		ULTRAVIOLET PHOTOMETRY		72-012A-06	03/03/72	NORMAL	STD	71			
KLIORE		METEOROID DETECTORS		72-012A-04	03/03/72	NORMAL	STD	71			
MCDONALD		S-BAND OCCULTATION		72-012A-10	03/03/72	NORMAL	STD	71			
SIMPSON		COSMIC-RAY SPECTRA		72-012A-12	03/03/72	NORMAL	STD	71			
SMITH		CHARGED PARTICLE COMPOSITION		72-012A-02	03/03/72	NORMAL	STD	72			
SOBERMAN		MAGNETIC FIELDS		72-012A-01	03/03/72	NORMAL	STD	72			
VAN ALLEN		ASTEROID/METEOROID ASTRONOMY		72-012A-03	03/03/72	NORMAL	STD	72			
		JOVIAN CHARGED PARTICLES EXPERIMENT		72-012A-11	03/03/72	NORMAL	STD	72			
		PLASMA EXPERIMENT		72-012A-13	03/03/72	NORMAL	STD	73			
PIONEER 11	WOLFE	UNITED STATES	NASA-CSS	04/06/73	JUPITER FLYBY	73-019A	04/06/73	NORMAL	STD	1012	
ANDERSON		CELESTIAL MECHANICS		73-019A-09	04/06/73	NORMAL	STD	73			
FILLIUS		JOVIAN TRAPPED RADIATION		73-019A-05	04/06/73	NORMAL	STD	73			
GENRELS		HIGH RESOLUTION PHOTO-IMAGING OF		73-019A-16	04/06/73	NORMAL	STD	1012			
JUDGE		JUPITER'S CLICL COVER									
KINARD		ULTRAVIOLET PHOTOMETRY		73-019A-06	04/06/73	NORMAL	STD	74			
KLIORE		METEOROID DETECTORS		73-019A-04	04/06/73	NORMAL	STD	74			
MCDONALD		S-BAND OCCULTATION		73-019A-10	04/06/73	NORMAL	STD	74			
MUNCH		COSMIC-RAY SPECTRA		73-019A-12	04/06/73	NORMAL	STD	74			
NESS		INFRARED RADICIMETER		73-019A-08	04/06/73	NORMAL	ZERO	74			
SIMPSON		JOVIAN MAGNETIC FIELD		73-019A-14	04/06/73	NORMAL	SUBS	75			
SMITH		CHARGED PARTICLE COMPOSITION		73-019A-02	04/06/73	NORMAL	STD	75			
SOBERMAN		MAGNETIC FIELDS		73-019A-01	04/06/73	NORMAL	STD	75			
VAN ALLEN		ASTEROID/METEOROID ASTRONOMY		73-019A-03	04/06/73	NORMAL	STD	75			
		JOVIAN CHARGED PARTICLES EXPERIMENT		73-019A-11	04/06/73	NORMAL	STD	75			
		PLASMA EXPERIMENT		73-019A-13	04/06/73	NORMAL	STD	76			
PIONEER VENUS 1978		SEE PIONEER VENUS FRCBZ BUS									
PIONEER VENUS 1978		SEE PIONEER VENUS FRCBZ LPG									
PIONEER VENUS 1978		SEE PIONEER VENUS FRCBZ SMI									
PIONEER VENUS 1978		SEE PIONEER VENUS FRCBZ SW2									
PIONEER VENUS 1978		SEE PIONEER VENUS FRCBZ SM3									
PIONEER VENUS 1978 GSEIT		SEE PIONEER VENUS GSEIT									
PIONEER VENUS ORBITER	UNITED STATES	NASA-CSS	MAY 1978	VENUSCENTRIC	P10780R		APPROVED				
GRACE		LANGMUIR PROBE		P10780R-01		APPROVED					76
BROWN		RADAR ALTIMETER		P10780R-02		APPROVED					76
CRAFT		RADIO SCIENCE TEAM		P10780R-03		APPROVED					76
DOONAHUE		PARTICIPATING THEORIST DONAHUE		P10780R-04		APPROVED					77
EVANS		TRANSIENT GAMMA-RAY SOURCES		P10780R-05		APPROVED					77
HANSEN		CLD/PHOTOPOLARIMETER		P10780R-06		APPROVED					77
KNUDSEN		PETARDING POTENTIAL ANALYZER		P10780R-07		APPROVED					77
MASURSKY		PARTICIPATING THEORIST MASURSKY		P10780R-08		APPROVED					77
MCGILL		PARTICIPATING THEORIST MCGILL		P10780R-09		APPROVED					77
NAGY		PARTICIPATING THEORIST NAGY		P10780R-10		APPROVED					77
NIEMANN		NEUTRAL PARTICLE, MASS SPECTROMETER		P10780R-11		APPROVED					78
RUSSELL		TRIAXIAL FLUXGATE MAGNETOMETER		P10780R-12		APPROVED					78
SCARF		ELECTRIC FIELD DETECTOR		P10780R-13		APPROVED					78
SCHUBERT		PARTICIPATING THEORIST SCHUBERT		P10780R-14		APPROVED					78
STEWART		PROGRAMMABLE ULTRAVIOLET SPECTROMETER		P10780R-15		APPROVED					78
TAYLOR		RADIOMETRIC TEMPERATURE SCANNING		P10780R-16		APPROVED					79
TAYLOR, JR.		EXPERIMENT									
WOLFE		ION MASS SPECTROMETER		P10780R-17		APPROVED					79
WOLFE		SOLAR WIND PLASMA DETECTOR		P10780R-18		APPROVED					79
PIONEER VENUS PROBE EUS	UNITED STATES	NASA-CSS	AUG. 78	VENUS FLYBY	P1078PA		APPROVED				
BAUER		PARTICIPATING THEORIST BAUER		P1078PA-08		APPROVED					79

* SPACECRAFT NAME	COUNTRY AND AGENCY	LAUNCH DATE	ORBIT TYPE	-----CURRENT STATE-----					
				NSSDC ID	EPOCH MMDDYY	STATUS	DATA RATE	PAGE NO.	
* PRINC. INVEST. NAME	EXPERIMENT NAME								
SAS-D	SEE IUE								
SE-C	SEE SOLRAD 10								
SMM	SEE SOLAR MAXIMUM MISSION								
SOLAR EXPLORER-C	SEE SOLRAD 10								
SOLAR MAXIMUM MISSION	UNITED STATES	NASA-CSS	07/19/72	GEOCENTRIC	SMM		PROPOSED	1013	
ACTON	SCFT X-RAY SPECTROMETER				SMM	-07	APPROVED CONDITIONALLY	1013	
BONNET	HIGH RESOLUTION UV SPECTROMETER				SMM	-03	APPROVED CONDITIONALLY	1013	
CHURP	BROAD RANGE GAMMA-RAY EXPERIMENT				SMM	-13	APPROVED CONDITIONALLY	1013	
DE JAGER	HARD X-RAY IMAGING SPECTROMETER				SMM	-08	APPROVED CONDITIONALLY	1014	
FROST	HARD X-RAY SPECTROMETER				SMM	-10	APPROVED CONDITIONALLY	1014	
IMHOF	HIGH RESOLUTION GAMMA-RAY SOLID STATE DETECTOR				SMM	-11	APPROVED CONDITIONALLY	1014	
KOCMEN	WHITE LIGHT CORONAGRAPH				SMM	-02	APPROVED CONDITIONALLY	1014	
KURFESS	BROAD RANGE GAMMA-RAY SPECTROMETER				SMM	-12	APPROVED CONDITIONALLY	1014	
MAGUEEN	WHITE LIGHT CORONAGRAPH				SMM	-01	APPROVED CONDITIONALLY	1014	
NEUPERT	XUV SPECTROHELICIMETER				SMM	-06	APPROVED CONDITIONALLY	1015	
NOVICK	HARD X-RAY POLARIMETER				SMM	-09	APPROVED CONDITIONALLY	1015	
REEVES	XUV SPECTROHELICIMETER				SMM	-05	APPROVED CONDITIONALLY	1015	
TANBERG-HANSEN	HIGH RESOLUTION UV SPECTROMETER				SMM	-04	APPROVED CONDITIONALLY	1015	
SOLRAD 10	UNITED STATES	NASA-CSS	07/08/71	GEOCENTRIC	71-058A	07/00/73	NORMAL	SUBS	88
	UNITED STATES	DDO-NAVY							
KREPLIN	SOLAR RADIATION DETECTORS				71-058A-01	12/03/74	PARTIAL	SUBS	89
SOLRAD-C	SEE SOLRAD 10								
SPACE SHUTTLE	UNITED STATES	NASA-CMSF	12/00/78	GEOCENTRIC	SHUTTLE		APPROVED		89
SPACELAB	INTERNATIONAL	ESRO	11/00/80	GEOCENTRIC	SPACELAB		APPROVED		89
	UNITED STATES	NASA-CMSF							
SPACELAB AMPS MODULE	SEE AMPS								
SPACELAB ASTROENKY MISS	SEE ONE METER UV TELESCOPE								
SPACELAB IM UV TELESCOPE	SEE ONE METER UV TELESCOPE								
SPACELAB-SOLAR	UNITED STATES	NASA-CSS	N/A		SPLBSOL		PROPOSED	1015	
ACTON	SPECIAL PURPOSE FACILITY DEFINITION TEAM				SPLBSOL-04		APPROVED CONDITIONALLY	1016	
DUNN	CNE METER SOLAR TELESCOPE FACILITY DEFINITION TEAM				SPLBSOL-01		APPROVED CONDITIONALLY	1016	
PETERSON	SOLAR HARD X-RAY FACILITY DEFINITION TEAM				SPLBSOL-03		APPROVED CONDITIONALLY	1016	
WITHROW	SOLAR EUV-XUV-SCFT X-RAY TELESCOPE DEFINITION TEAM				SPLBSOL-02		APPROVED CONDITIONALLY	1016	
STP PROBE	SEE ISEE-C								
TD 1A	SEE TD 1A								
TD 1A	INTERNATIONAL	ESRC	03/12/72	GEOCENTRIC	72-014A	02/14/73	NORMAL	SUBS	90
DE JAGER	SOLAR X-RAY MONITOR				72-014A-06	02/14/73	NORMAL	SUBS	90
KAMPERMAN	UV STELLAR SPECTROMETER				72-014A-02	02/14/73	NORMAL	SUBS	90
LABEYRIE	SPECTROMETRY OF PRIMARY CHARGED PARTICLES				72-014A-03	02/14/73	NORMAL	SUBS	90
LABEYRIE	SPECTROMETRY OF EXTRATERRESTRIAL X RAYS				72-014A-04	07/02/73	NORMAL	SUBS	90
LAGEY-EIE	GAMMA-RAY MEASUREMENT				72-014A-07	02/14/73	NORMAL	SUBS	91
MONFILS	STELLAR UV RADIATION EXPERIMENT				72-014A-01	02/14/73	NORMAL	SUBS	91
OCCHIALINI	SOLAR GAMMA RAYS IN THE 50- TO 500-MEV ENERGY RANGE				72-014A-05	02/14/73	NORMAL	SUBS	91
UK 5	UNITED KINGDOM	SRC	10/15/74	GEOCENTRIC	74-077A	10/18/74	NORMAL	STD	91
	UNITED STATES	NASA-CSS							
BOYD	0.3- TO 30-KEV COSMIC X RAY WITH A ROTATION COLLIMATOR				74-077A-01	10/18/74	NORMAL	STD	91
BOYD	HIGH RESOLUTION SOURCE SPECTRA				74-077A-03	10/31/74	NORMAL	STD	91
ELLIOT	HIGH-ENERGY COSMIC X-RAY SPECTRA				74-077A-05	10/18/74	NORMAL	STD	92
HOLT	ALL-SKY MONITOR				74-077A-06	10/18/74	NORMAL	STD	92
POUNDS	2- TO 10-KEV SKY SURVEY				74-077A-02	12/03/74	PARTIAL	STD	92
POUNDS	POLARIMETER/SPECTROMETER				74-077A-04	10/18/74	NORMAL	STD	92
UNITED KINGDOM 5	SEE UK 5								
VIKING-A LANDER	UNITED STATES	NASA-CSS	3 QTR 75	MARS LANDER	VIKG-AL		APPROVED		92
ANDERSON	SEISMOLOGY				VIKG-AL-08		APPROVED		93
BISMANN	MOLECULAR ANALYSIS				VIKG-AL-04		APPROVED		93
HARGRAVES	MAGNETIC PROPERTIES				VIKG-AL-10		APPROVED		93
HESS	METEOROLOGY EXPERIMENT				VIKG-AL-07		APPROVED		93
KLEIN	BIOLOGY INVESTIGATION				VIKG-AL-03		APPROVED		93
MICHAEL, JR.	RADIO SCIENCE				VIKG-AL-11		APPROVED		94
MUTCH	FACSIMILE CAMERA				VIKG-AL-06		APPROVED		94
NIER	ENTRY-ATMOSPHERIC STRUCTURE				VIKG-AL-02		APPROVED		94
NIER	ENTRY-ATMOSPHERIC COMPOSITION				VIKG-AL-12		APPROVED		94
SMARTHILL	PHYSICAL PROPERTIES INVESTIGATION				VIKG-AL-01		APPROVED		95
TEULMIN, 3RD	X-RAY FLUORESCENCE SPECTROMETER				VIKG-AL-13		APPROVED		95
VIKING-A ORBITER	UNITED STATES	NASA-CSS	3 QTR 75	MARS CENTRIC	VIKG-A		APPROVED		95
CARR	ORBITER IMAGING				VIKG-A-01		APPROVED		95
FAHNER	IR SPECTROMETER -- WATER VAPOR MAPPING				VIKG-A-03		APPROVED		95
KIEFFER	IR RADIMETRY -- THERMAL MAPPING				VIKG-A-02		APPROVED		96

* SPACECRAFT NAME	COUNTRY AND AGENCY	LAUNCH DATE	ORBIT TYPE	-----CURRENT STATE-----			
				NSSDC ID	EPOCH MMDDYY	STATUS	DATA RATE
* PRINC. INVEST. NAME	EXPERIMENT NAME						
* *							
VIKING-8 LANDER	UNITED STATES	NASA-CES	3 OCT 75	MARS LANDER	VIKG-BL	APPROVED	96
ANDERSON	SEISMOLOGY				VIKG-BL-08	APPROVED	96
BIEMANN	MOLECULAR ANALYSIS				VIKG-BL-04	APPROVED	96
HARGRAVES	MAGNETIC PROPERTIES				VIKG-BL-10	APPROVED	96
HESS	METEOROLOGY EXPERIMENT				VIKG-BL-07	APPROVED	97
KLEIN	BIOLOGY INVESTIGATION				VIKG-BL-03	APPROVED	97
MICHAEL, JR.	RADIO SCIENCE				VIKG-BL-11	APPROVED	97
MUTCH	FACSIMILE CAMERA				VIKG-BL-06	APPROVED	97
NIER	ENTRY-ATMOSPHERIC STRUCTURE				VIKG-BL-02	APPROVED	97
NIER	ENTRY-ATMOSPHERIC COMPOSITION				VIKG-BL-12	APPROVED	98
SHORTHILL	PHYSICAL PROPERTIES INVESTIGATION				VIKG-BL-01	APPROVED	98
TOULMIN, 3RD	X-RAY FLUORESCENCE SPECTROMETER				VIKG-BL-13	APPROVED	98
VIKING-8 ORBITER	UNITED STATES	NASA-CES	3 OCT 75	MARS CENTRIC	VIKG-B	APPROVED	98
CAPR	ORBITER IMAGING				VIKG-B-01	APPROVED	98
FARMER	IR SPECTROMETER -- WATER VAPOR MAPPING				VIKG-B-03	APPROVED	99
KIEFFER	IR RADICOMETRY -- THERMAL MAPPING				VIKG-B-02	APPROVED	99